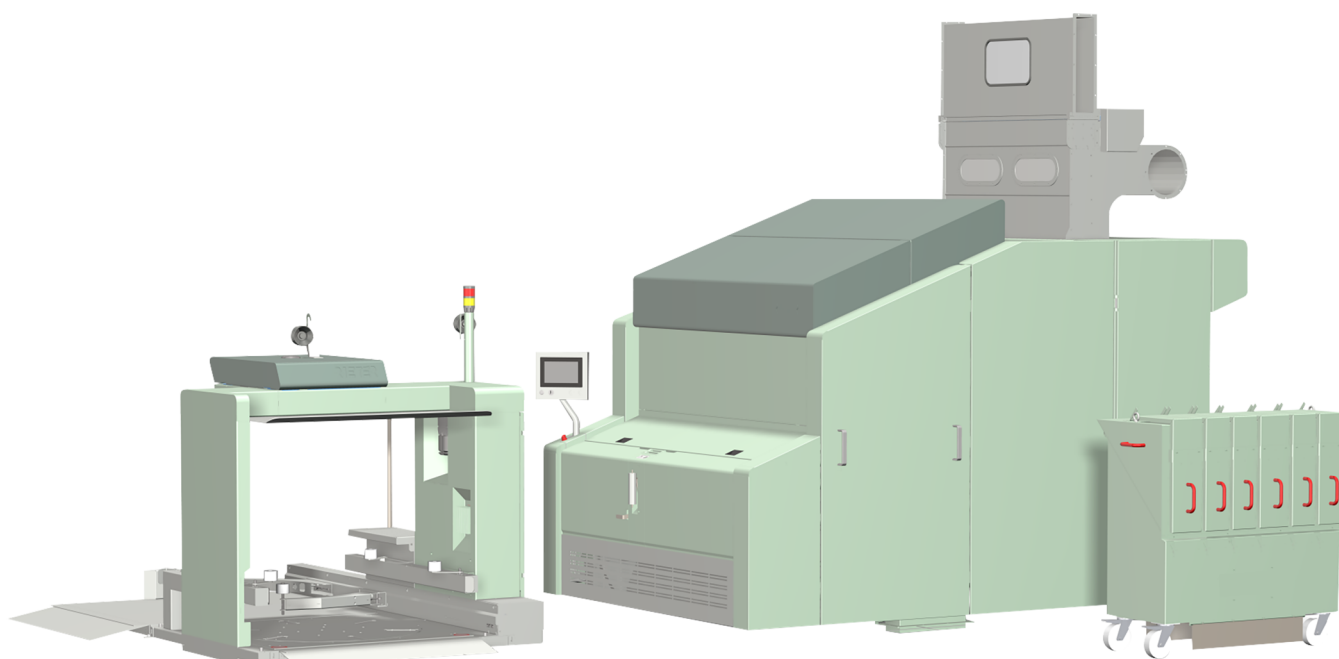




Operation Manual

Card C 80

UNIconvert

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Imprint

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1 Introduction

This chapter contains the information about the work with the operation manual.

1.1 About the Operation Manual

The operation manual is a part of the machine and is to be kept at the machine. The instructions from the third-party suppliers are also to be kept at the machine.

The operation manual can be identified through the material number and the editorial version. The identification properties are specified in the legal notice.

1.2 Availability of the Operation Manual

The machine owner must make sure that the personnel read and understand the operation manual correctly. The machine owner must make sure that the personnel that are involved in all machine works have easy and fast access to the operation manual always.

1.3 Used Conventions

The writing conventions that are used in this manual are as follows:

Writing Convention		
Name	Example	Description
Section information	Chapter 1, 1.1, 1.1.1	The chapter numbers are given in a sequence. The chapter number starts with the number 1.
Figure number	<i>Figure 1</i>	The figure numbers are given in a sequence. The figure number starts with the number 1.
Callout	1	The elements in the figure are identified with position numbers.

1.4 Intended User

Only Rieter approved personnel are permitted to operate the machine, to do the maintenance work, and the repair work at the machine. The personnel must know the content of this operation manual and how to find the related information.

1.5 Liability

If against to regulations, the assembly of new or actual facility is done by a third party, Maschinenfabrik Rieter AG (called Rieter) declines all liability.

The auxiliary agents supplied by Rieter such as crane, caster jack etc. is to be used only in the area and for the types of machine intended and for no other purpose. Rieter declines all responsibility for any damage due to inappropriate usage of the auxiliary agents.

If the machine is used for any purpose other than for which it is intended, Rieter declines all liability.

2 Safety

This chapter contains the information about:

- The general safety information
- The intended users
- The location of the safety labels
- The safety equipment
- The danger zones

2.1 General Safety Information

This chapter contains information about the machine safety.

All personnel that do work at the machine must know and obey the safety instructions.

This machine has a state-of-the-art technology and supplies a high standard of operational reliability.

The standards and directives applied during design, production, and configuration are recorded in the EC / EU Declaration of Conformity and the manufacturer's declaration.

Also, the national safety regulations, the mill safety regulations, and the accident prevention regulations that are applicable must be obeyed.

Non-Observance of Safety Instructions

Rieter is not liable for damage that is caused by the non-observance of the safety instructions, in particular for damage that is caused because of:

- The machine is used for different purpose than the machine is made for.
- Incorrect operation
- Incorrect selection of materials and tools
- Not sufficient or missing maintenance work and repair work

2.2 Safety Messages

The safety messages contain a signal word, a safety symbol, and the safety instructions.



DANGER

If the safety instructions are NOT obeyed, the situation causes death or irreversible injuries.

**WARNING**

If the safety instructions are **NOT** obeyed, the situation can cause death or injuries.

**CAUTION**

If the safety instructions are **NOT** obeyed, the situation can cause small injuries.

**NOTICE**

This signal word shows that the user must obey the given procedure or message to prevent a property damage.

Structure of the Safety Messages

Each safety message contains the elements that follow:

- Safety symbol
- Signal word
- Type and source of the danger
- Consequences of the danger if not prevented
- Instructions to prevent the danger

2.3 General Safety Instructions

The basic safety instructions that follow must be obeyed:

1. Give the machine key and the password only to the approved personnel.
2. Only approved personnel are permitted to operate the machine.
3. Operate the machine only in a damage-free condition.
4. Stop the machine to change, to install, to remove, to do maintenance work, or to repair the machine or machine components. Set the main switch to the position OFF. Padlock the main switch.
5. Keep the machine floor, the platforms, and the ladders cleaned from grease, oil, and other fluids.
6. Do not climb on the machine.
7. Always wear personal protective equipment.
8. Bind the long hair.
9. Do not wear:
 - Finger rings
 - Wristwatches

- Scarves
- Loose cloths

Safety Devices and Monitoring Devices

Only approved personnel are permitted to remove the safety devices and the monitoring devices. Before the devices are replaced, the approved personnel must make sure that the main switch is set to the position OFF, the main switch is padlocked, and the power supply is disconnected. Modifications that are not approved can cause death, injury, or property damage.

The instructions that follow are to be obeyed:

1. Do not make the safety devices short-circuit.
2. Make only approved modifications.
3. Do not assemble the machine again without an approval.
4. Examine the correct function of the safety devices before the machine starts to operate.

External Transportation System

The safety requirements for an external transportation system are to be obeyed by the operating company.

The operating company must make sure that the warning signs, the mandatory signs, and the prohibition signs are possible to be read.

2.4 Emergency Report

The accident is reported as follows:

- Who calls?
- What occurred?
- Type of injury?
- When?
- Where?
- How many persons have an injury?
- Do other dangers occur?

If an accident occurs:

1. Do the first-aid treatment.
2. Call the local emergency center.

2.5 Personal Protective Equipment

The personal protective equipment that follows is to be used:

Symbol	Information
	Safety helmet Use a safety helmet to prevent head injuries. Refer to the standard EN 397:2012+A1:2012.
	Eye protection Use an eye protection to prevent the eyes from particles that occur during the work at the machine. Refer to the standard EN ISO 166.
	Ear protection Use an ear protection to prevent the ears from high-volume noise. Refer to the standard EN 352.
	Respiratory protection Use a respiratory protection to prevent the respiratory tract from dust. Refer to the standard EN 149:2001+A1:2009.
	Safety gloves Use cut-resistant safety gloves that have a flexible, impact-resistant layer to prevent the hands from cut injuries. Refer to the standard EN 388:2003. Use chemical-resistant safety gloves to prevent the hands from injuries by chemical materials. Refer to the standard EN 374. Use heat-resistant safety gloves to prevent the hands from burns. Refer to the standard EN ISO 407.
	Safety shoes Use safety shoes to prevent the feet from injuries and the personnel from electric shocks. Refer to the standard EN ISO 20345 (category S3).

2.6 Preventing Damage of Electronic Components

Electronic components are sensitive to electrostatic charging.

1. Discharge on grounded metal parts before you get in contact with electrical components. Use a grounding wristband.
2. Touch electronic components only if necessary.



Figure 1: No touch of electronic components

3. Do not touch the pins or parts of the printed circuit board of electronic components.

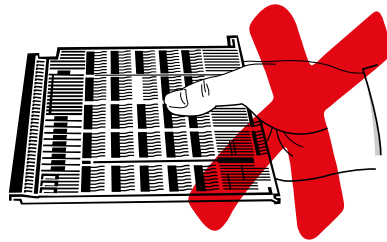


Figure 2: No touch of pins or tracks of electronic components

4. Prevent that electronic components touch chargeable objects (for example, synthetic materials).



Figure 3: Electronic components and chargeable objects

5. Do not keep electronic components around computer screens. Keep a distance of a minimum of 10 cm between the electronic component and the computer screen.



Figure 4: Electronic components around computer screens

2.7 Fire Protection

Fire can occur during the processing of textile materials.

The fire starts because of different causes as for example:

- Smoking
- Contact of the cotton with hot bearings
- Sparks that occur during the grinding of metals or because of a short circuit

The personnel must know how to operate the manually operated extinguishing systems for fire-fighting purposes.

The instruction of the personnel about the extinguishing systems and about the escape procedures is necessary.

The standards of the local fire protection authorities are to be obeyed to operate the fire extinguishing systems.

To prevent trash particles, dust, and fibers from explosion:

- An air circulation system must be installed especially in the areas of fiber operation.
- The pipe system that moves the fibers must be grounded.
- Dust and fibers must be removed regularly.
- A vacuum cleaner is to be used.

2.8 Safety Circuit and Safe Torque Off (STO)

The safety circuit has sensors, operating elements, and actuators.

The safety circuit is used for the protection of the personnel, the environment, and the equipment.

The electrical documentation contains information about the safety circuit connections.

The parts of the safety circuit are as follows:

- Emergency stop buttons
- Safety limit switches at the doors and the hoods
- Safety relays
- Frequency converters and control systems of stepper motors with integrated functional safety properties

Functional Safety Properties of Frequency Converters and Control Systems of Stepper Motors

Abbreviation of the Safety Property	Designation of the Safety Property
STO	Safe Torque Off
SOS	Safe Operating Stop

Abbreviation of the Safety Property	Designation of the Safety Property
SBC	Safe Brake Control
SS1	Safe Stop 1
SS2	Safe Stop 2
SSM	Safe Speed Monitor
SLS	Safe Limited Speed
SDI	Safe Direction

Safe Torque Off (STO) (EN 60204-1)

The STO function makes sure that the torque-generating energy has no effect on the motor. The STO prevents an automatic start-up of the motor. The controller of the motor monitors the operating state.

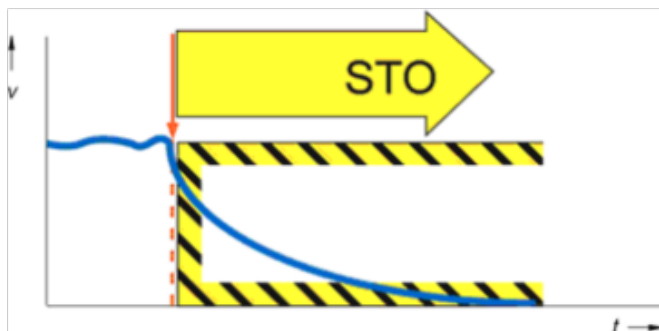


Figure 5: Safe torque off

Safety Instructions for the Maintenance Work

1. Do not open the components in the safety circuit. Do not change the safety circuit.
2. Replace the defective safety components with total work units only.
3. Only the manufacturer or an organization (Rieter Repair Station) that has a written approval repair the safety devices.
4. Obey the necessary steps in the chapter "Maintenance" in the operation manual.

After the Replacement of a Safety Component

1. Do the function test of the safety circuit. Inspection Tasks
2. Record the replacement and the function in the protocol of the safety circuit in the electrical documentation. *Protocol for the Safety Circuit* ▶ 749

Exclusion of Liability

The standards in the operation manual are to be obeyed. Opened or changed safety devices can cause injuries to the personnel or damage at the machine.

If the changes that are not approved are done at the safety devices, the warranty by Rieter is not applicable.

The customer has full responsibility for the costs that are caused by the changes that are not approved at the safety devices.

2.9 Product Safety

This chapter contains the information about the product safety.

2.9.1 Safety Symbols at the Machine

Safety symbols of the machine-specified safety are put on machine parts or at the locations where possible risks exist.

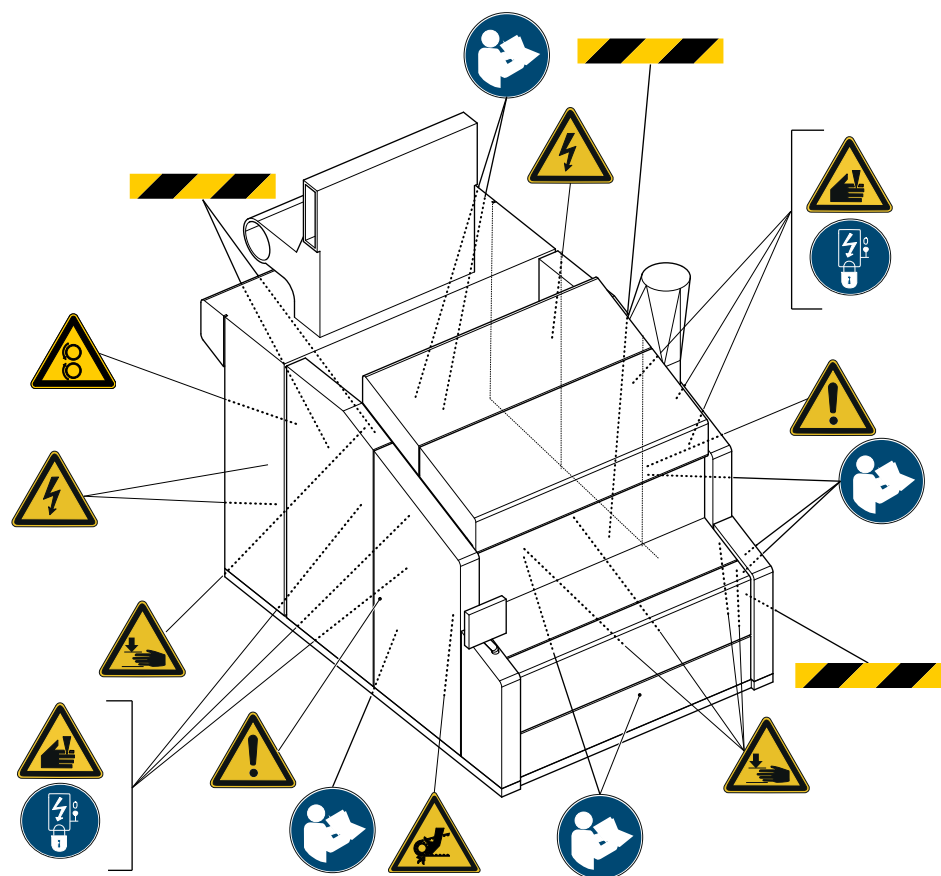


Figure 6: Safety symbols at the machine

The dotted lines are for the safety symbols that are put at the inner side of the machine.

Descriptions of the Safety Symbols	
Safety Symbol	Description
	Warning! Electric shock!
	Warning! Don't forget to install the protecting covers behind the door after the maintenance work or repair work!
	Caution! Risk of squeezing of hands!
	Caution! Risk of stabbing hands!
	Caution! Risk of squeezing of hands by the chain that works!
	Caution! Risk of injury by the counter turning rollers!
	Warning! Dangerous zone!
	Refer to the manual.
	Caution! Padlock the main switch!

2.9.2 Danger Zones at the Machine

2.9.2.1 Funnel in the Card Chute

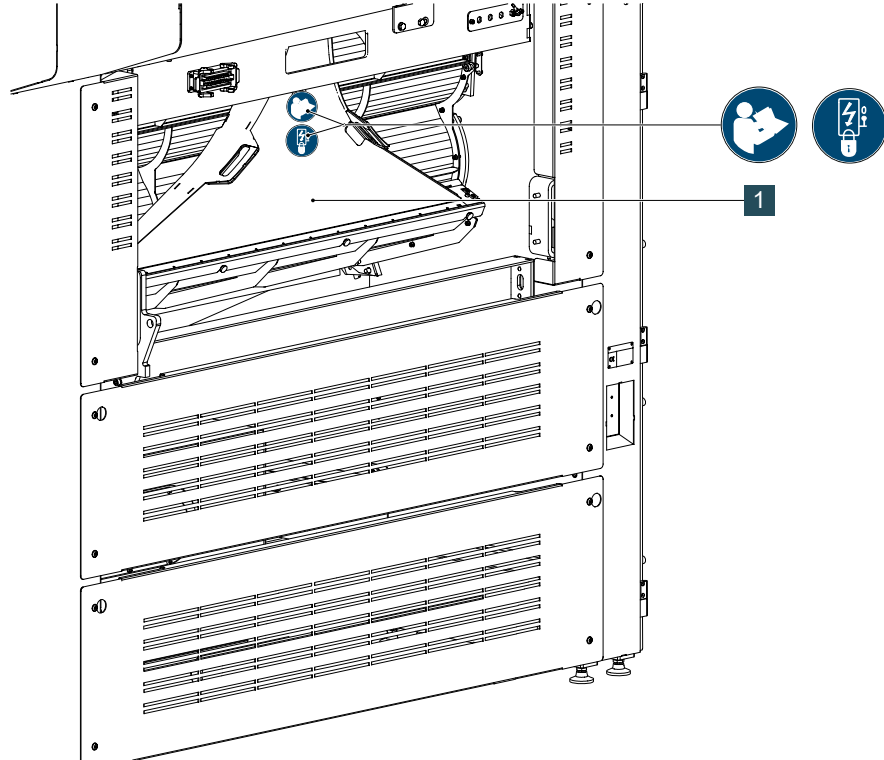


Figure 7: Funnel in the card chute

If the funnel **1** is removed, the opening roller and the running fan are possible to be touched. Hand injuries can occur if the operator touches the rotating opening roller.

Before remove the funnel **1**, make sure that the criteria are obeyed:

- The machine is at a standstill.
- The main switch is set to the position OFF and the main switch is padlocked.

After the maintenance work or after the blockage in the funnel **1** is removed, the funnel **1** must be installed back.

2.9.2.2 Danger Zone at the Doffer Area

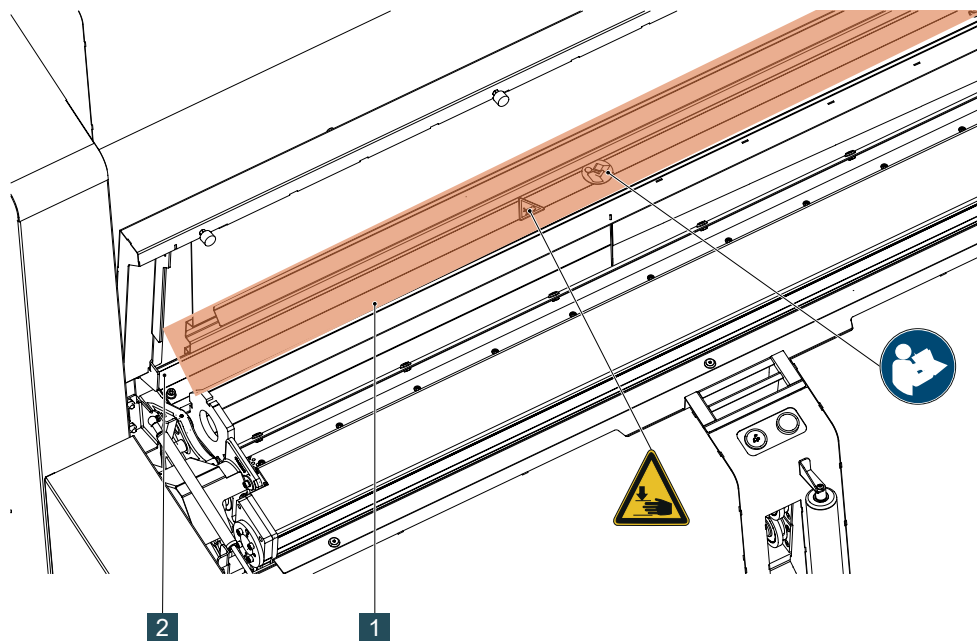


Figure 8: Delivery unit

If the cover **2** is removed from the doffer, the doffer wire **1** is possible to be touched.

When the doffer wire **1** turns, the doffer wire **1** has the risk of drawing in hands. Hand injuries can occur if the operator puts the hand in the doffer wire **1**.

The operator must not touch the doffer wire **1** when the doffer is turning.

2.9.2.3 Danger Zones at the Delivery Unit

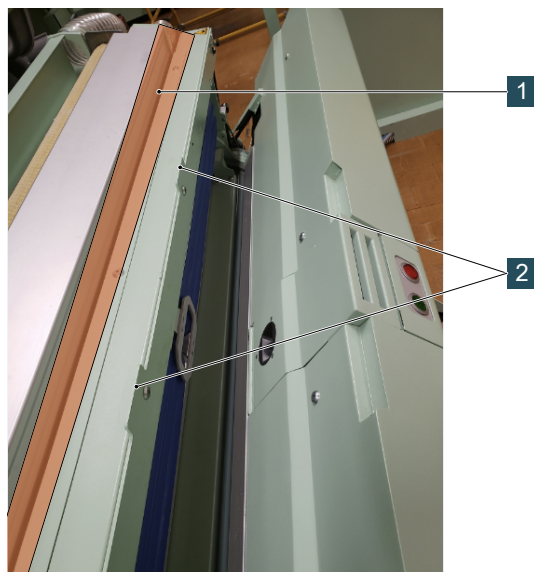


Figure 9: Danger zone of the delivery unit

When closing cross apron unit, there is a risk of crushing the finger in the area **1**.

The user must close the cross apron unit with the handle **2**.

2.9.2.4 Danger Zone at the Card Flats Drive

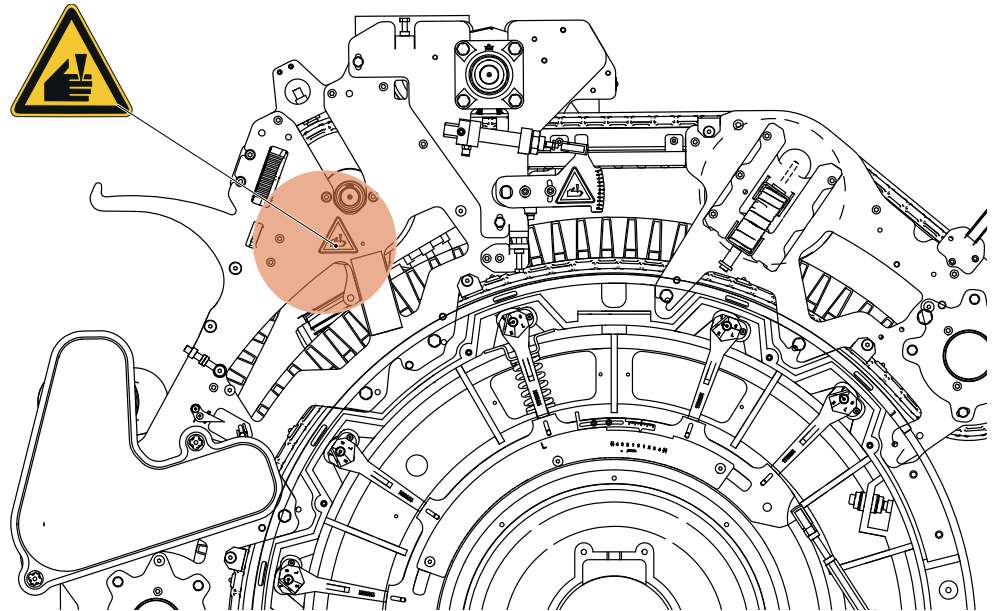


Figure 10: Danger area at the card flats drive

When the machine is in operation, there is a risk of squeezing finger at the danger area **1**.

The user is not allowed to put hands in the area **1** when the machine is in operation.

2.9.2.5 Danger Zone at the Flats Cleaning Unit

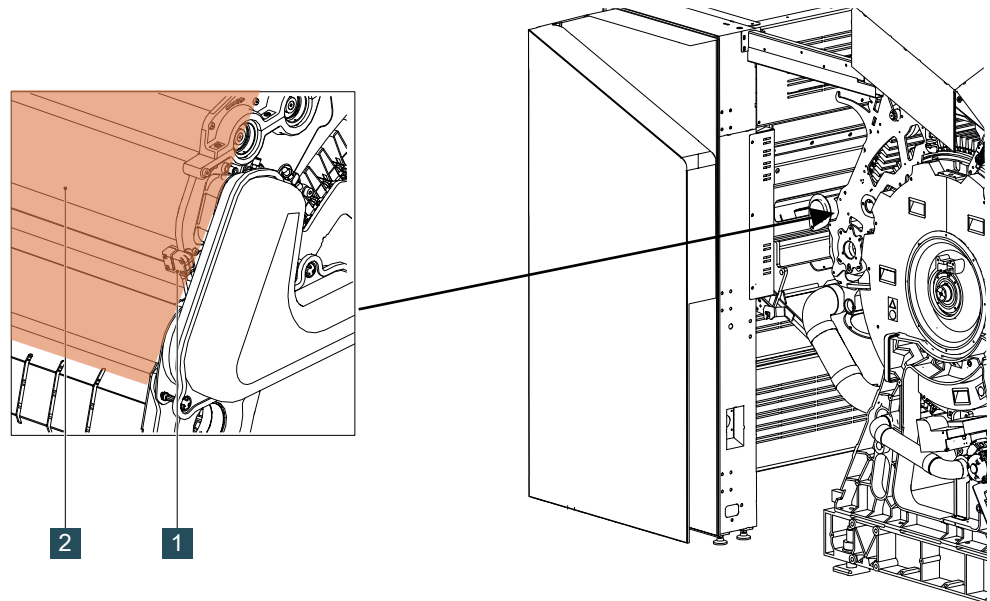


Figure 11: Danger zone of the flats cleaning unit

The safety switch **1** stops the production when the suction duct cover **2** of the flat cleaning unit is open.

The production can only start when the suction duct cover **2** of the flat cleaning unit is closed.

When the clearer roller PW2 is turning, there is a risk of injury if the user put the hands in the area of clearer roller PW2.

The user is only allowed to do the cleaning work for the suction duct when the clearer roller PW2 is at a standstill.

2.9.3 Safety Information of the Tools

2.9.3.1 Installing the Platform at the Card Chute



WARNING

Falling from the height!

Personal injury

- Keep the floor and the platform clean from grease, oil, or other contamination.
- Examine the condition of the floor when using a ladder.
- Be careful when moving onto or getting off the platform.

The owner must ensure that the country and local rules are understood and adequate measures are taken.

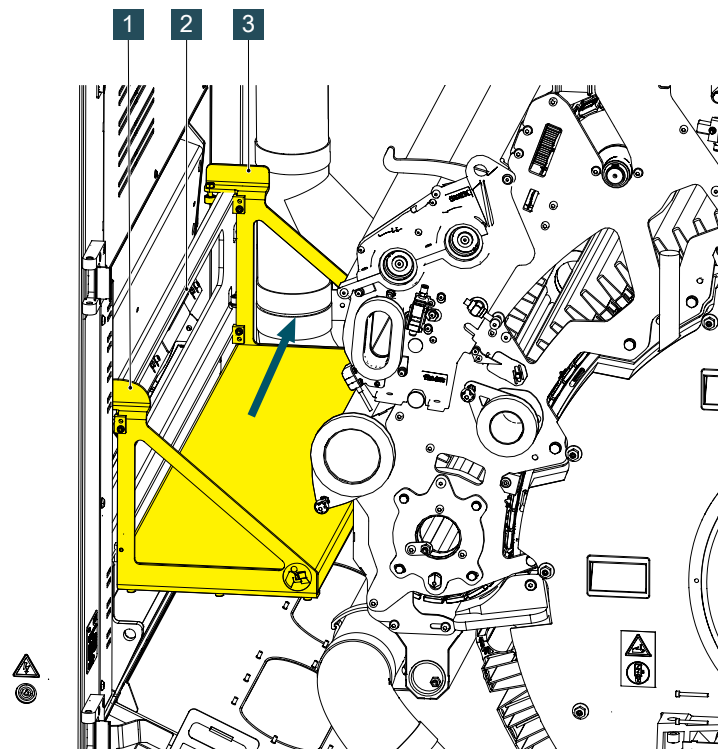


Figure 12: Platform at the card chute

1. Engage the right support **3** on to the left side of the crossbar **2** of the card chute.
2. Move the platform in the direction of the arrow.
3. Engage the left support **1** on to the crossbar **2**.
4. Examine if the position of the left support **1** and the position of the right support **3** are correct.
5. Make sure that the left support **1** and the right support **3** are attached to the crossbar **2** tightly.

Result The platform is installed at the card chute.

2.9.3.2 Mobile Scaffold



WARNING

Falling from the mobile scaffold!

Personal injury

- Keep the floor and the platform clean from grease, oil, or other contamination.
- Examine the condition of the floor when using a mobile scaffold.
- Make sure that the wheels are braked before getting onto the mobile scaffold.

The owner must ensure that the country and local rules are understood and adequate measures are taken.

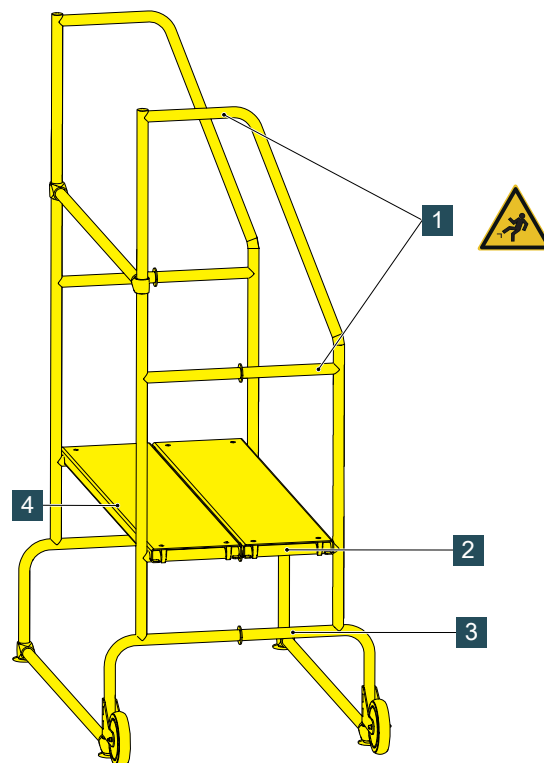


Figure 13: Mobile scaffold

The operator can only install the platform **4** on the position **2** and the position **3**.

It is not allowed to install the platform **4** on the positions **1** because the operator is possible to fall from the positions **1**.

Make sure that the wheels are braked before the operator getting onto the platform **4**.

2.9.4 Safety Devices at the Doors

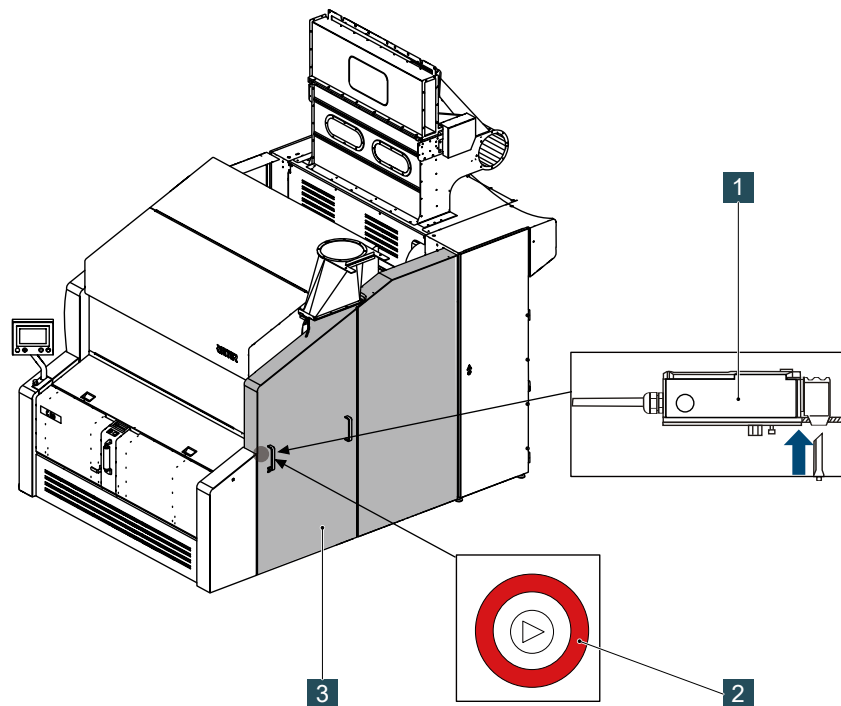


Figure 14: Safety switch at the door

**DANGER****The safety devices are removed or bypassed!**

Death or dangerous injuries

- ▶ Do NOT remove the installed safety devices.
- ▶ Do NOT bypass the installed safety devices.

- At the right side of the machine, the red ring symbol **2** is attached to the door lock.
- The safety switch **1** locks the folding door **3**.
- The safety switch **1** only unlocks the folding doors **3** if the cylinder is at a standstill.
- The machine starts only if the folding door **3** is locked.

2.9.4.1 Opening the Safetied Doors on the Right Side

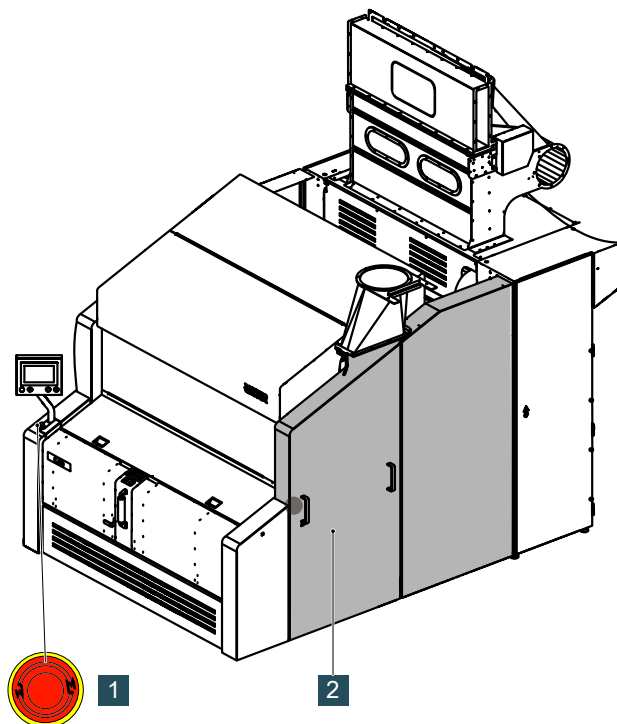


Figure 15: Folding door at the right side

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position ON for minimum 60 seconds.
 - ✓ The cylinder is at a standstill.
1. Push the emergency stop button **1**.
 - ⇒ The folding door **2** at the right side is unlocked.
 - ⇒ If the emergency stop button is pushed during the self-test, the doors remain locked.

Result The safetied door is opened.

2.9.4.2 Opening the Safetied Doors in Power Outage

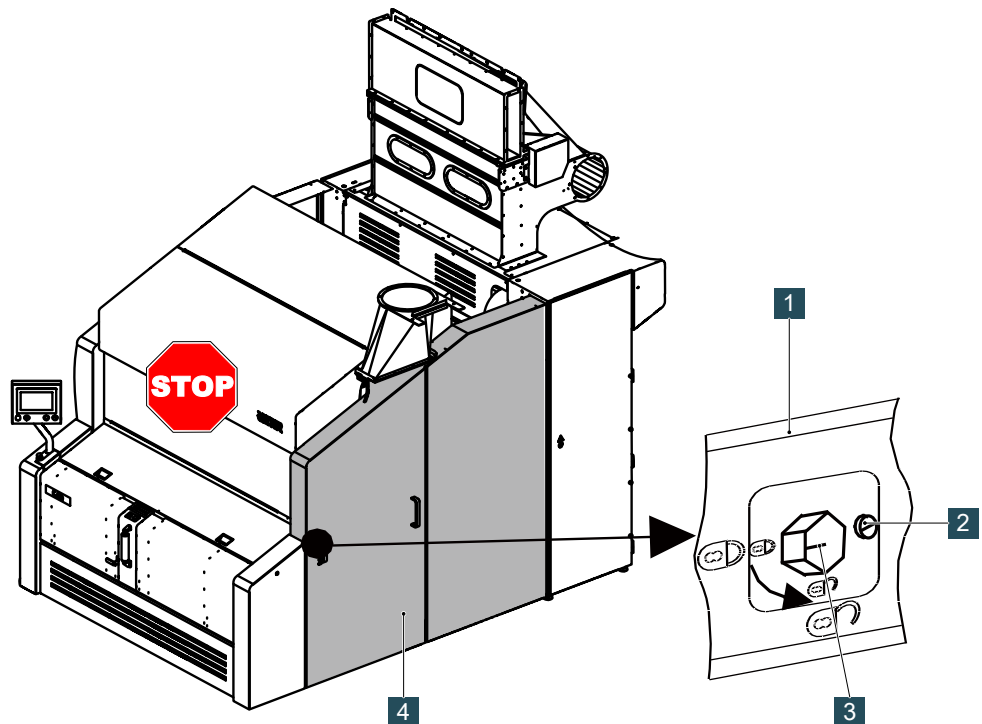


Figure 16: Secured doors

**WARNING****Moving machine components!**

Risk of hand injury

- ▶ Do NOT touch the machine components that move.
- ▶ Before setting the main switch to position OFF, make sure that the machine is at a standstill.
- ▶ When do maintenance work and repair work, set the main switch to the position OFF and padlock the main switch.

1. Wait until the shaft of the cylinder is at a standstill.
2. Set the main switch to the position OFF.
3. Padlock the main switch.
4. Loosen the screw **2** with approximately 6 turns.
5. Carefully turn the hexagonal screw **3** counterclockwise to the limit stop with a socket wrench.
⇒ The door lock **1** is unlocked.
6. Open the right side door **4**.

7. To lock the door lock **1** again, turn the hexagonal screw **3** clockwise.

Result The safetied doors are opened in power outage.

2.9.5 Safety Devices at the Machine

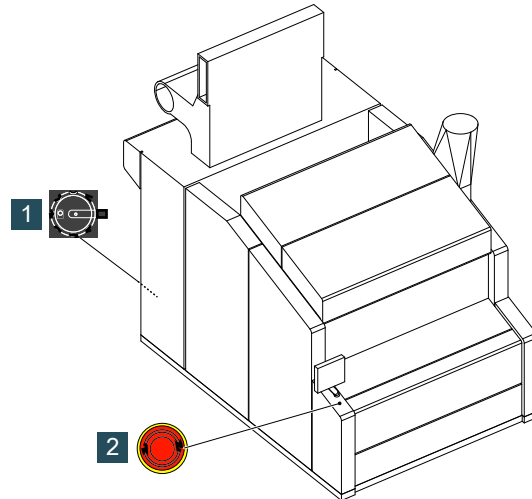


Figure 17: Safety devices

The machine has the safety devices that follows:

- Main switch **1**
- Emergency stop button **2**

Main Switch

The main switch has the position 0/OFF and the position I/ON. The main switch is set to the position 0/OFF to disconnect the power supply from the machine. The main switch is set to the position I/ON to connect the power supply to the machine. The main switch is not an emergency stop button.

The main switch is to be set to the position 0/OFF and the main switch is to be padlocked before the maintenance work and the repair work.

Emergency Stop Button

The emergency stop button is only used in an emergency. When the operator pushes the emergency stop button, the results that follow occur:

- The machine stops immediately.▪
- All connected peripheral machines of the machine stop immediately.

The emergency stop button is possible to be released by turning the button.

2.10 Safe Working at the Machine When the Machine Is Off



WARNING

Moving machine components!

Risk of hand injury

- ▶ Do NOT touch the machine components that move.
- ▶ Before setting the main switch to position OFF, make sure that the machine is at a standstill.
- ▶ When do maintenance work and repair work, set the main switch to the position OFF and padlock the main switch.

If the machine starts unexpectedly, the personnel who are working at the machine can get injured.

Thus, the below work is only allowed to be done at the machine when the machine parts are standstill and the main switch is padlocked.

- All commissioning works
- All cleaning works
- All lubrication works
- All maintenance works

WARNING! Moving machine components! Risk of hand injury because the machine components move. Even the main switch is set to the position OFF, the working elements of the machine can continue in operating. The danger can exist in the situations as follows:

- The main switch has been switched off before the machine has come to a standstill. But the energy accumulated in the flywheel mass continues to drive the machine.
- Parts of the machine are being moved by hand.
- Parts of the machine are being driven by external energy. An airflow for example.

2.11 Tasks at the Machine When the Main Switch Is Set to the Position ON



⚠ WARNING

Moving machine parts!

Injury because of moving machine parts.

- ▶ When the main switch is ON, the operator must do the task carefully because the machine parts are in the operation.
- ▶ The operator must examine the operation status of the machine.
 - ⇒ The machine is in operation, machine parts are in operation.
 - ⇒ The machine is ready for operation, machine parts are at a standstill, however these parts can start any time.
 - ⇒ The machine is stopped, however individual parts are still in motion due to momentum.
 - ⇒ The machine is switched off via the main switch and safeguarded, and all machine parts are at a standstill.

The below tasks can be done only at the machine when the main switch is set to the position ON and the machine is in operation. Thus, the operator must be careful when doing the below tasks.

- Clothing maintenance
- Starting the machine without material
- Starting the machine with material
- Correcting the faults

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3 Product Information

This chapter contains the information about:

- The intended use of the machine
- The location of the identification plate
- The primary machine assemblies
- The basic machine functions
- The technical data
- The EC / EU Declaration of Conformity

3.1 Intended Use

The card has the functions that follow:

- Gently open the fiber tufts to the individual fiber.
- Make the fibers into lengthwise position and parallel to each other without causing fiber damage.
- Even distribution and mixing of fiber mass.
- Extraction of impurities, bits of husk, neps and short fibers
- Production of the first form of draftable sliver (as even as possible)

3.2 Raw Materials

The machine only uses the textile raw materials that follow:

Cotton	From all sources
Man-made fiber	Natural and synthetic polymers
Maximum fiber length	65 mm
Maximum cut length	60 mm

3.3 Machine Components

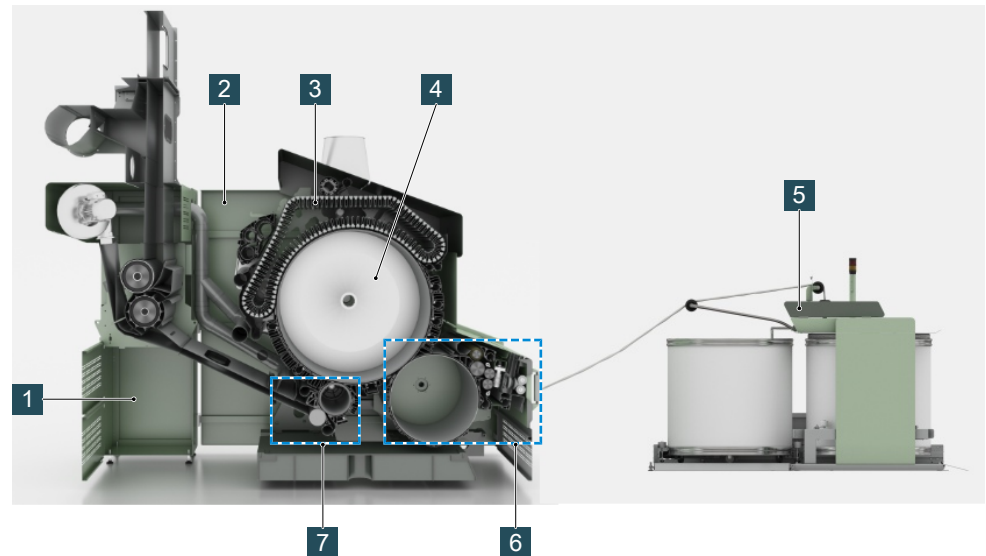


Figure 18: Primary machine components

1	Card chute	2	Card
3	Card flats unit	4	Cylinder
5	Coiler	6	Delivery unit
7	Licker-in unit		

The machine has 3 primary units:

- Card chute
- Card
- Coiler

The card chute opens the tufts and sends the material to the card. The card is the primary unit that opens, cleans, and cards the material. The coiler collects the material.

The card has the primary components that follow:

- Licker-in unit
- Card flats
- Cylinder
- Delivery unit

The user can select 3 types of coiler:

- CBA
- RSB module (with the drafting function and the autoleveling function)

3.4 Function Description

The chapters that follow contain the information about the function of the machine and the primary components.

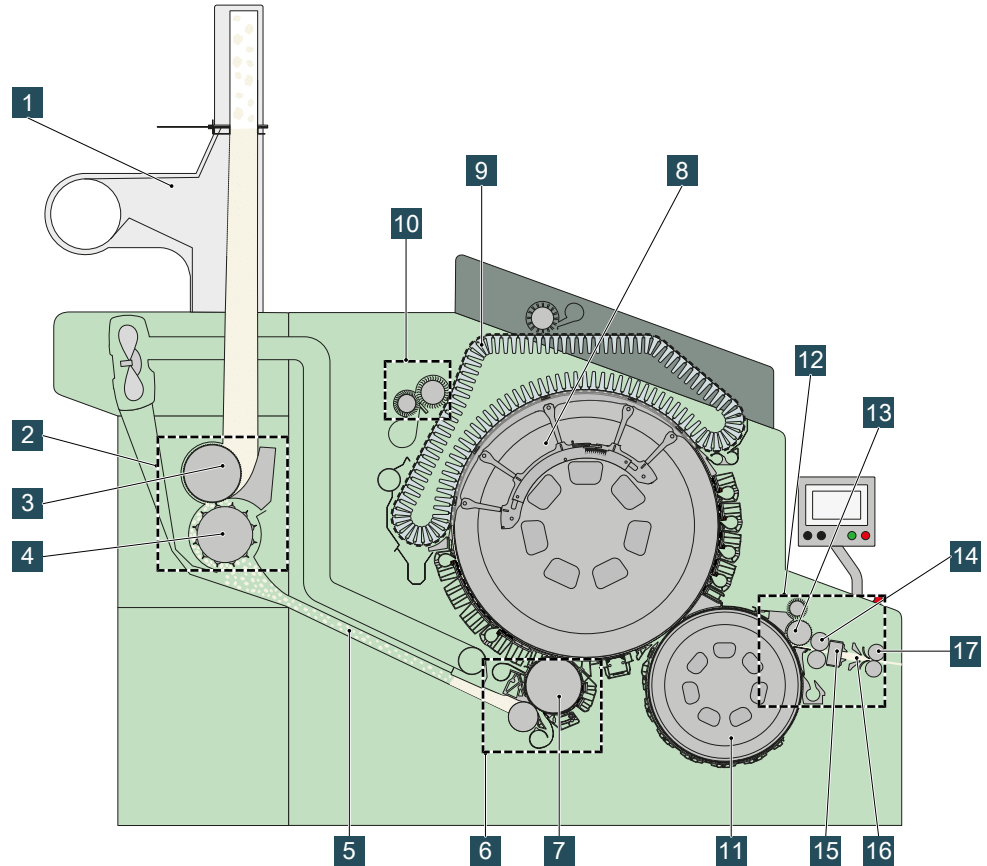


Figure 19: Material flow

1 Card chute	2 Opening unit of chute
3 Feed roller	4 Opening roller
5 Feed-in channel	6 Licker-in unit
7 Licker-in roller	8 Cylinder
9 Card flats	10 Cleaning unit of the card flats
11 Doffer	12 Delivery unit
13 Take-off roller	14 Delivery rollers
15 Cross apron	16 Funnel
17 Disk rollers	

The working procedure of the card is as follows:

1. The gentle opened material from the blowroom is feed to the card chute **1**.
2. The opening roller **4** of the opening unit **2** opens the material to finer tufts.

3. The loose tufts are fed by air through the feed-in channel **5** to the licker-in unit **6** of the card. The licker-in roller **7** has been equipped with coarse saw-tooth clothing. The clothing catches the loose stock producing from feed roller and feed trough. The material is cleaned further when passing the mote knives and the carding elements underneath the licker-in roller **7**.
4. The pre-opened loose stock is then transferred to cylinder **8**, which is installed with fine teeth.
5. The material is moved to the card flats **9** where it is opened between the cylinder clothing and card flats **9** to expose the individual fibers. The cleaning unit **10** removes any short fibers, neps, and unwanted objects that have been caught on the carding pins.
6. After carding by the card flats **9**, cylinder **8** conveys the fibers, loose and parallelized, to the doffer **11**.
7. On the doffer **11**, the mass of fibers forms a web of fleece. The take-off roller **13** of the delivery unit **12** receives this web fleece from the doffer **11**. The delivery rollers **14** carry the web to the cross apron **15** where the web passed through a funnel **16**.
8. The compressed sliver goes through the disk rollers **17** and moved to the coiler. The coiler deposits the sliver into can.

Function Description for UNIconnect

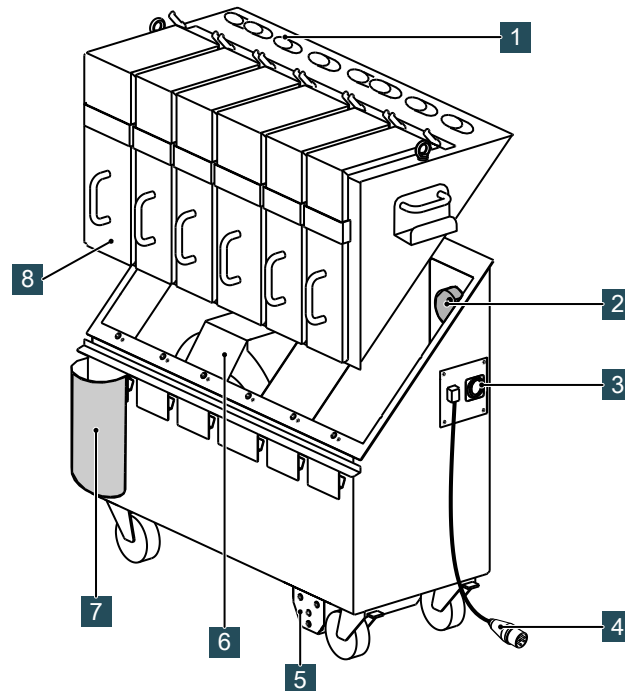


Figure 20: Components of UNIconnect

The fan generates the required partial vacuum in the waste collector. Using the setting mechanism, the vacuum in the waste collector is adjusted to the partial vacuum in the central suction unit. The waste material is fed via the tubes connected to the suction nozzles to the suction chambers, where it is collected. Following the measurement, the waste is collected and weighted in the attached plastic sacks.

- There are 8 suction nozzles **1** in total.
- The display **2** shows the partial vacuum in waste collector.
- **3** is main switch.
- **4** is the plug for power supply to card.
- The setting mechanism **5** is used to adjust partial vacuum of waste collector to card.
- Fan **6** for generating partial vacuum in waste collector.
- Plastic sack **7** for collecting extracted waste.
- There are 6 suction chambers **8** in total.

3.5 Technical Data

The information about the technical data is for a standard machine.

3.5.1 Layout Preview (CBA 1200)

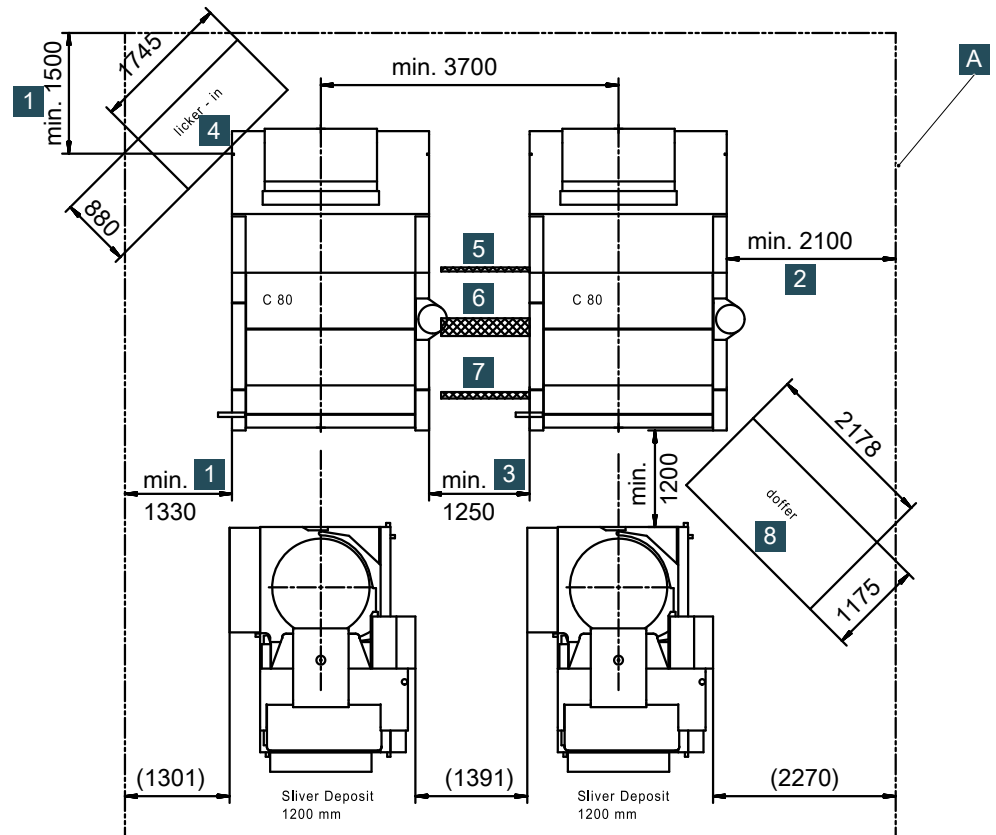


Figure 21: Layout drawing_CD1200mm

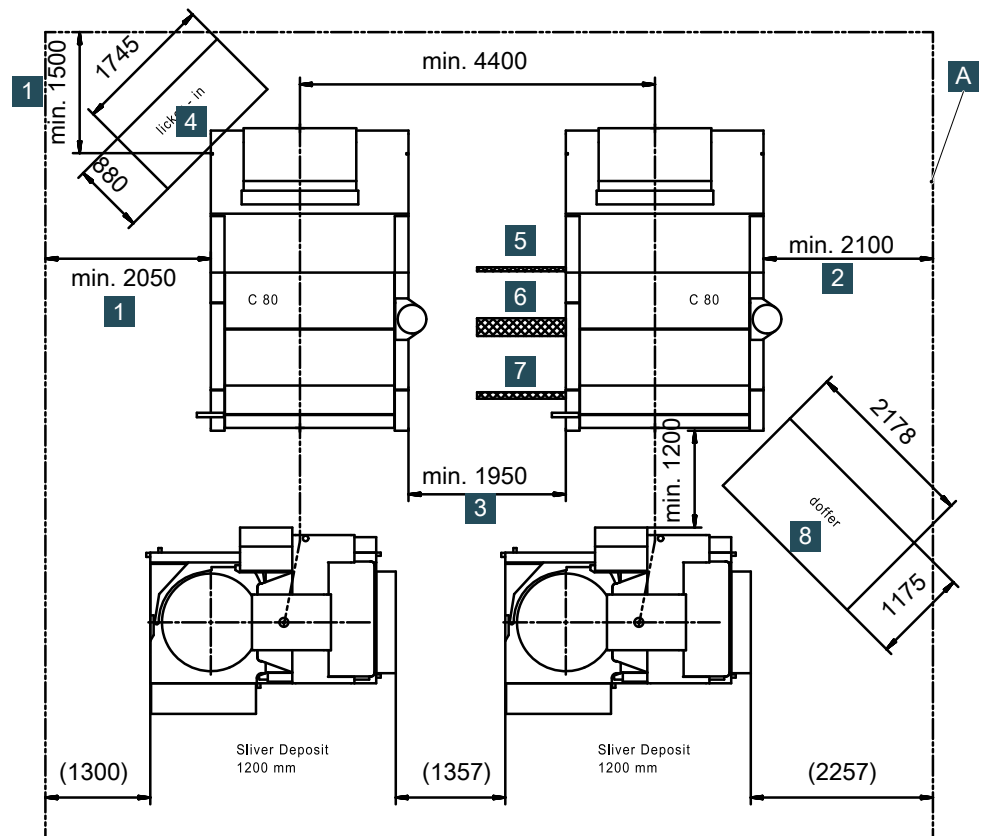


Figure 22: Layout drawing_crosswise_CD1200

Important Now walls, pillars, pipes and other objects are allowed within the marking lines **A**.

1 is the required minimum distance for installation and removal of licker-in unit.

2 is the required minimum distance for installation and removal of doffer.

3 is the required minimum distance for installation and removal of the stripes, IGS-classic, and web bridge.

4 is the licker-in unit.

5 is the stripes.

6 is the IGS-classic.

7 is the web bridge.

8 is the doffer unit.

3.5.2 Dimensions

This chapter contains the information about the dimensions of the machine. All dimensions in the figures are given in millimeters.

3.5.2.1 Machine Distance

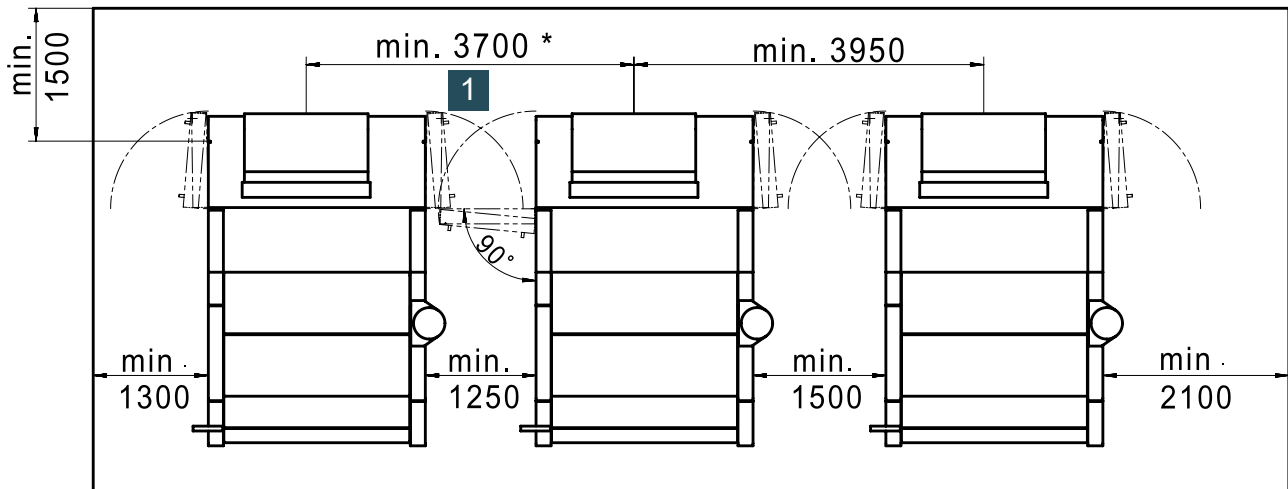


Figure 23: Machine distance

Important 1 Pay attention to the service information in below table.

Position	Sliver Deposit		Minimum Distance (mm)	Restriction	Service Information
	Can diameter (mm)	Layout			
Lengthwise insertion	1000	Recessed	3700	One door is fully open. Adjacent door is open by 90°.	– In the process of installing several chutes, after one of the chutes is installed onto the floor, close the folding door of this chute before installing the adjacent chute. – If the folding door is not close at this time, it is not possible to close the folding door of this chute anymore.
	1000	On floor	3700	One door is fully open. Adjacent door is open by 90°.	– In the process of installing several chutes, after one of the chutes is installed onto the floor, close the folding door of this chute before installing the adjacent chute. – If the folding door is not close at this time, it is not possible to close the folding door of this chute anymore.
Crosswise insertion	1000	Recessed	3950	No restriction. Both doors are fully open.	NA
	1000	On floor	3950	No restriction. Both doors are fully open.	NA

Position	Sliver Deposit		Minimum Distance (mm)	Restriction	Service Information
	Can diameter (mm)	Layout			
Lengthwise orientation	1200	Recessed	3700	One door is fully open. Adjacent door is open by 90°.	– In the process of installing several chutes, after one of the chutes is installed onto the floor, close the folding door of this chute before installing the adjacent chute. – If the folding door is not close at this time, it is not possible to close the folding door of this chute anymore.
	1200	On floor	3700	One door is fully open. Adjacent door is open by 90°.	– In the process of installing several chutes, after one of the chutes is installed onto the floor, close the folding door of this chute before installing the adjacent chute. – If the folding door is not close at this time, it is not possible to close the folding door of this chute anymore.
Crosswise orientation	1200	Recessed	4400	No restriction. Both doors are fully open.	NA
	1200	On floor	4400	No restriction. Both doors are fully open.	NA

3.5.2.2 Side View

This section contains the information about the dimension of the machine with the standard card chute and the jumbo card chute.

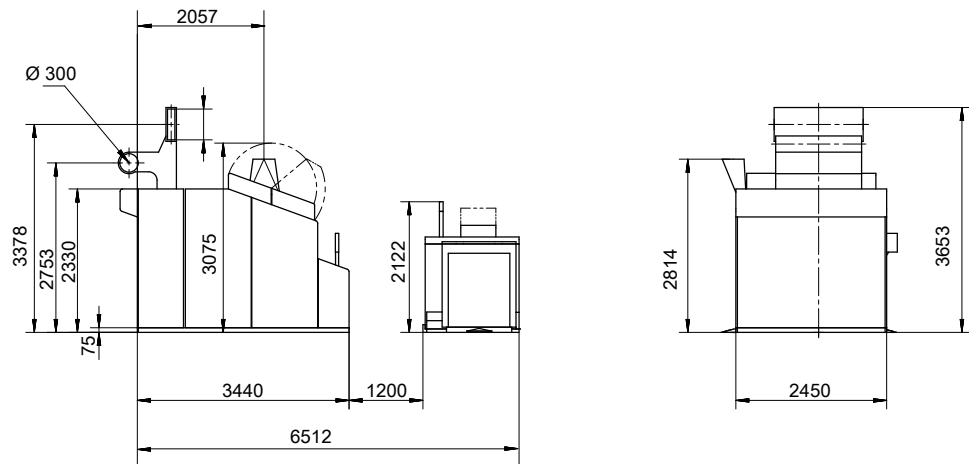
Standard card chute


Figure 24: Machine layout (standard card chute)

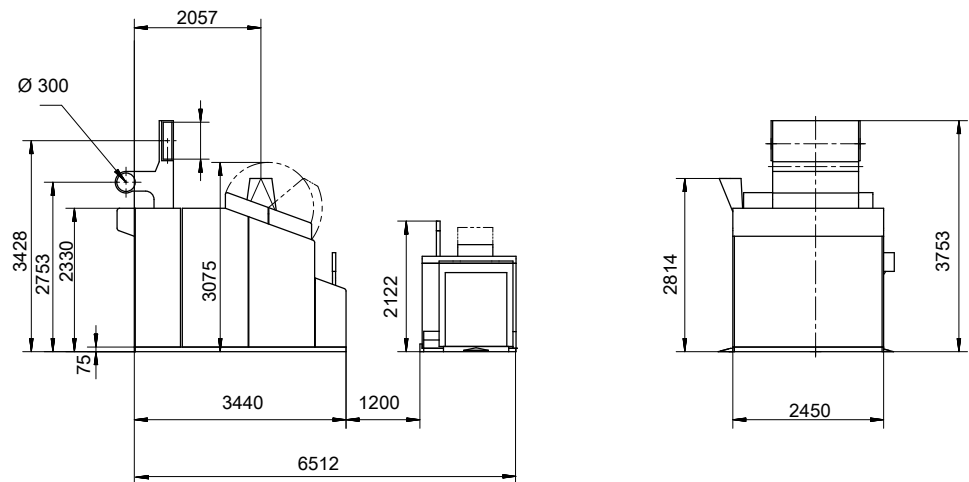
Jumbo card chute


Figure 25: Machine layout (jumbo card chute)

3.5.2.3 Dimensions of UNIconnect

This section contains the information about the dimension of the UNIconnect.

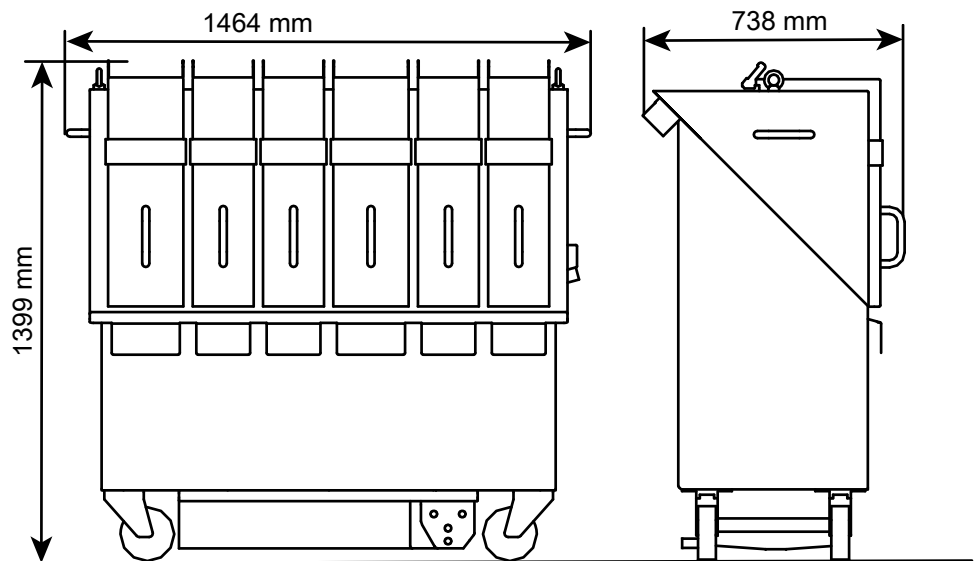


Figure 26: Dimension of the UNIcollect

3.5.3 Compressed Air

3.5.3.1 Compressed Air

Compressed-air consumption	
Card	0.7 m ³ /h
Isolated waste disposal system for the lick-in	0.01 m ³ /h
Air pressure of the supply line	7.0 – 8.0 bar
Coiler	0.1 m ³ /h

3.5.3.2 Standard for the Compressed-Air Quality

The Pneurop class 3/4/5 is to be obeyed to measure the quality of the compressed air.

Humidity of the Compressed Air	
Pressure dew point	- 20 °C
Impurities in the Compressed Air	
Impurity quantity	≤ 5 mg/m ³
Permitted particle size of the impurities	≤ 5 nm

Oil Content of the Compressed Air

Incoming air

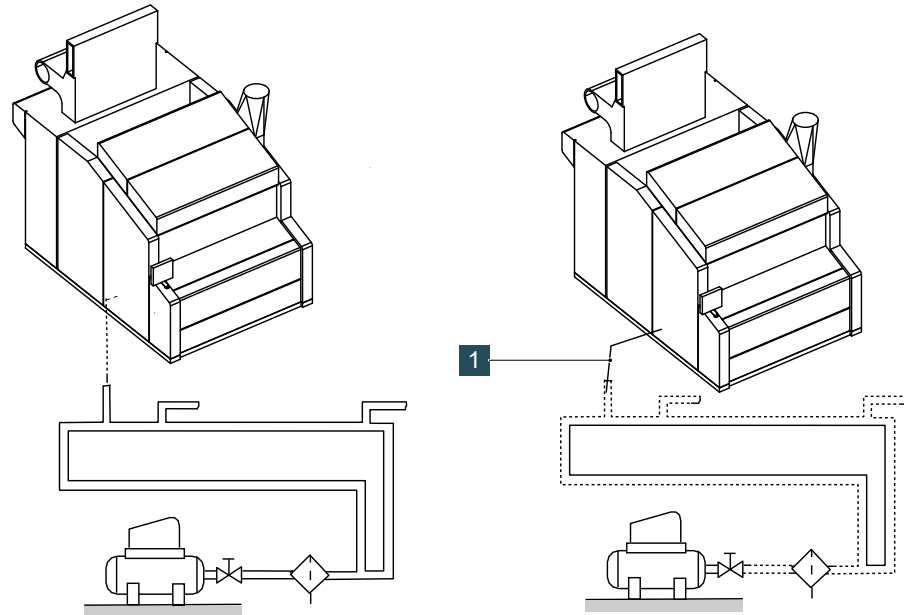
1.0 mg/m³**3.5.3.3 Requirement for the Compressed-Air Supply**

Figure 27: Compressed-air supply line

The length of the flexible connection hose **1** is ≤ 4 m. The compressed-air supply line is a ring line. The ring line of the gas pipe has a diameter between 1 – 2 inches. The feed unit has a water separator.

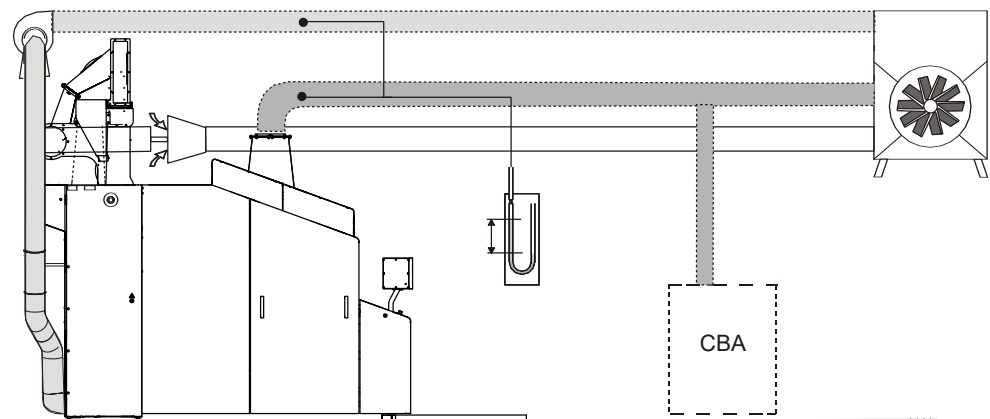
3.5.4 Exhaust Air**3.5.4.1 Exhaust Air Volume for the Waste Removal**

Figure 28: Waste removal

Vacuum Pressure in the Suction Unit

Vacuum pressure	700 Pa
-----------------	--------

Flow Rate in the Suction Unit

Flow rate	1.1 m ³ /s
-----------	-----------------------

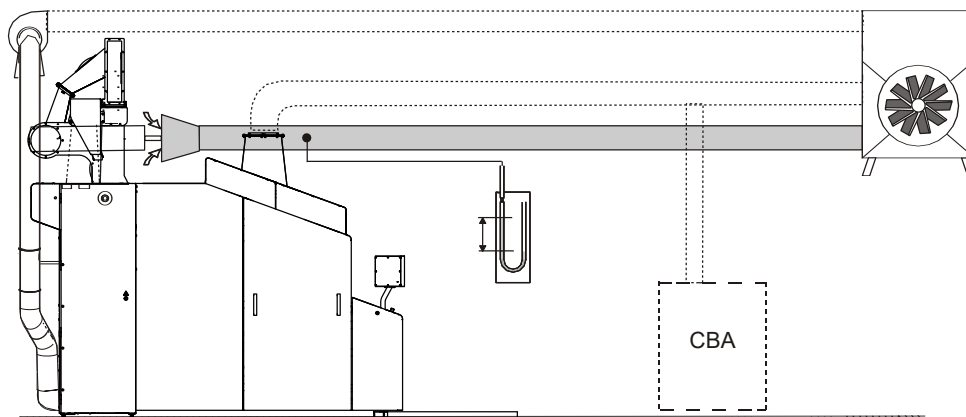
3.5.4.2 Exhaust Air Volume for the Card Chute

Figure 29: Exhaust air line to the card chute

Exhaust Air Volume for the Card Chute

Exhaust air volume	0.60 m ³ /s
--------------------	------------------------

Vacuum Pressure and Measurement of the Exhaust Air from the Card Chute

Vacuum	150 – 50 Pa
--------	-------------

3.5.5 Technical Data

The technical information is for a standard machine.

3.5.5.1 Ambient Conditions of the Carding Room

Parameter	Cotton	Man-Made Fibers
Room temperature	24 – 28 °C	23 – 27 °C
Relative humidity	48 – 54 %	48 – 56 %
Absolute humidity for each kg of air	9 – 12 g	9 – 12 g

3.5.5.2 Sound Emission of the Card

The ISO 9902 is 1 standard of the standards in the ISO 4871.

The standard ISO 9902 is to be obeyed to measure the sound emission. The sound emission is to be measured at a distance of 1 m from the machine.

The formula of the sound emission is $L_m + K$.

- L_m = Mean value
- $K = 3$ dB (safety margin)

Delivery Speed	L_{Wad}	L_{pAd}
100 m/min	93 ⁺³ dB	74 ⁺³ dB
250 m/min	96 ⁺³ dB	77 ⁺³ dB
400 m/min	98 ⁺³ dB	79 ⁺³ dB

L_{Wad} : A-weighted sound power level (reference power: 1 pW)

L_{pAd} : A-weighted sound pressure level (reference pressure: 20 μ Pa)

The sound emission is measured with the conditions that follow:

- No material is in the machine.
- The cylinder turns at 800 rpm.
- The machine has a central suction system.
- The machine has a card chute and the compression fan turns at 2 900 rpm.

3.5.5.3 Electrical Data

Parameter	Value
Supply voltage	400 VAC (+/- 10 %)
Number of phases	3

If the supply voltage does not have the specified value, an upstream transformer is to be used.

More information on the machine-specific power ratings and the back-up fuses is available in the electrical documentation.

Electrical Data for UNIconnect

Connection

Power supply 400V	Socket on the card
-------------------	--------------------

Installed electrical power

Machine specific data	See the diagram provided by Rieter
-----------------------	------------------------------------

3.5.6 Weight

Assembly	Weight (kg)
Total card machine weight (without sliver deposit and chute)	6 200
Card chute	2 100
Set of card flats	460
Delivery unit	1100
UNIconnect	280

3.5.7 Requirements for the Cans in the Delivery Units

The requirements on the cans in the delivery units are as follows.

Can Fillings for the Cans with Casters

Cans with Casters					Can Filling [kg]				Spring Plate	
CD [mm]	CH [mm]	CD [inch]	CH [inch]	CH [mm]	Combed CO	Carded CO.CV	Blends CO/MMF	PES	d4 [mm]	h4 [mm]
400	900	16	36	914	13	10	10	9	385	50
	1 000		40	1 016	15	11	11	10		
445 450	900	18	36	914	16	13	12	11	435	50
	1 000		40	1 016	18	14	14	12		
	1 070		42	1 067	20	15	15	13		
	1 100		44	1 118	20	16	15	13		
	1 150		45	1 143	21	16	16	14		
	1 200		48	1 219	22	17	17	15		
470	1 070	19	42	1 067	21	16	16	14	455	50
	1 100		44	1 118	22	17	16	14		
	1 150		45	1 143	23	17	17	15		
	1 200		48	1 219	24	18	18	16		
500	900	20	36	914	19	16	15	13	485	55
	1 000		40	1 016	21	17	16	14		
	1 070		42	1 067	23	19	18	15		
	1 100		44	1 118	24	19	18	16		
	1 150		45	1 143	25	20	19	17		
	1 200		48	1 219	26	21	20	17		
	1 300		51	1 295	28	23	22	19		
	1 500		60	1 524	33	27	25	22		
600	900	24	36	914	26	21	20	18	585	60

Cans with Casters					Can Filling [kg]				Spring Plate	
CD [mm]	CH [mm]	CD [inch]	CH [inch]	CH [mm]	Combed CO	Carded CO.CV	Blends CO/MMF	PES	d4 [mm]	h4 [mm]
	1 000		40	1 016	29	23	23	20		
	1 070		42	1 067	31	25	24	21		
	1 100		44	1 118	32	26	25	22		
	1 150		45	1 143	34	27	26	23		
	1 200		48	1 219	35	28	28	24		
	1 270		50	1 270	37	30	29	26		
	1 300		51	1 295	38	31	30	26		
	1 500		60	1 524	45	36	35	30		
800	1 000	32	40	1 016	41	32	31	27	780	85
	1 070		42	1 067	44	34	33	29		
	1 100		44	1 118	45	35	34	29		
	1 150		45	1 143	48	37	36	31		
	1 200		48	1 219	50	39	38	32		
	1 270		50	1 270	53	41	40	35		
	1 300		51	1 295	54	43	41	35		
	1 500		60	1 524	63	50	48	41		
900	1 000	36	40	1 016	48	36	35	30	880	100
	1 070		42	1 067	52	39	38	32		
	1 100		44	1 118	53	41	39	33		
	1 150		45	1 143	56	43	41	35		
	1 200		48	1 219	59	45	43	36		
	1 270		50	1 270	62	47	46	39		
	1 300		51	1 295	64	49	47	40		
	1 500		60	1 524	75	57	55	46		
1 000	1 000	40	40	1 016	54	40	38	31	980	100
	1 070		42	1 067	58	43	42	34		
	1 100		44	1 118	60	44	43	35		
	1 150		45	1 143	63	47	45	37		
	1 200		48	1 219	66	49	47	38		
	1 270		50	1 270	71	52	50	41		
	1 300		51	1 295	72	53	51	42		
	1 500		60	1 524	85	62	60	49		
1 200	1 000	48	40	1 016	86	62	58	47	1 180	100

Cans with Casters					Can Filling [kg]				Spring Plate	
CD [mm]	CH [mm]	CD [inch]	CH [inch]	CH [mm]	Combed CO	Carded CO.CV	Blends CO/MMF	PES	d4 [mm]	h4 [mm]
	1 070		42	1 067	92	67	62	50		
	1 100		44	1 118	95	69	64	52		
	1 150		45	1 143	100	72	68	55		
	1 200		48	1 219	105	76	71	57		
	1 270		50	1 270	112	80	75	61		
	1 300		51	1 295	114	83	77	63		
	1 500		60	1 524	134	96	90	73		

The values of the can fillings are given in the table that is shown before. These values are guide values and change with the material specifications.

Can Dimensions of the Cans with Casters

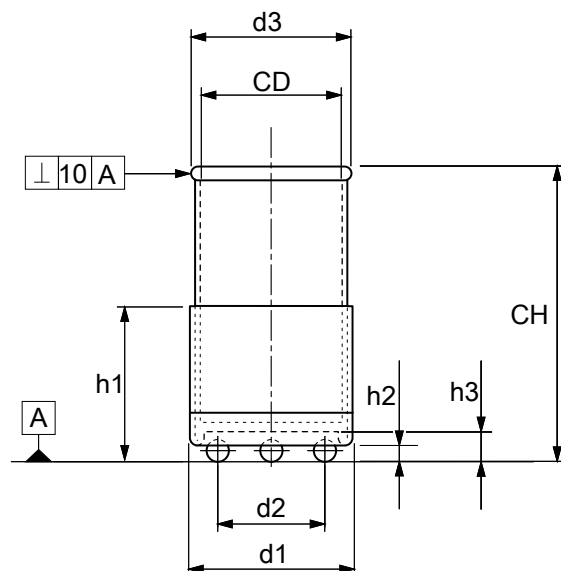


Figure 30: Can dimensions of the cans with casters

CH	Can height (nominal dimension)	CD	Can diameter (nominal dimension)
d1	Outer can diameter with reinforcement	d2	Caster diameter
d3	Outer can diameter at up rim bead	h1	Height of can reinforcement
h2	Can ground distance	h3	Height that increases for casters

The values that show in the table that follows are the referenced can dimensions.

Can Dimensions of the Cans with Casters	
Description	Specific
Limit values for the external diameter of the can on the top rim bead (for $CD \leq 470$ mm) (d3)	$CD + 15$ mm
Maximum outer can diameter at up rim bead (d3)	$CD + 30$ mm
Limit values for can diameter ($CD \leq 600$ mm)	$CD \pm 3$ mm
Limit values for can diameter ($CD \leq 800$ mm)	$CD \pm 6$ mm
Limit values for can height (CH)	$CH \pm 5$ mm
Limit values for the outer diameter of the can bottom with reinforcement (d1)	$CD + 15$ mm tolerance: -5 mm – 0 mm
Ground clearance of the can ($CD \leq 600$ mm) (h2)	60 mm
Ground clearance of the can ($CD \leq 800$ mm) (h2)	80 mm
Height that increases for casters ($CD \leq 600$ mm) (h3)	85 mm
Height that increases for casters ($CD \leq 800$ mm) (h3)	85 mm
Minimum caster circle diameter ($CD \leq 600$ mm) (d2)	$CD - 120$ mm
Minimum caster circle diameter ($CD \geq 800$ mm) (d2)	$CD - 160$ mm

Important information The casters on the cans must be in 120° angle with each other in the caster circle.

Requirements of the Cans

The information that follows is about the requirements of the cans.



CAUTION

Using damaged cans!

Crushing risk for personnel

► Use the cans that are not damaged in the delivery.

- Examine the cans for the damage regularly.
- Only use the cans with the spring plates in the delivery.

- Only use the spring plates on the cans that have a structured surface in the delivery.
- Make sure that the distance X, which the spring plate goes out of the empty can is in the range of 5 ± 5 mm.

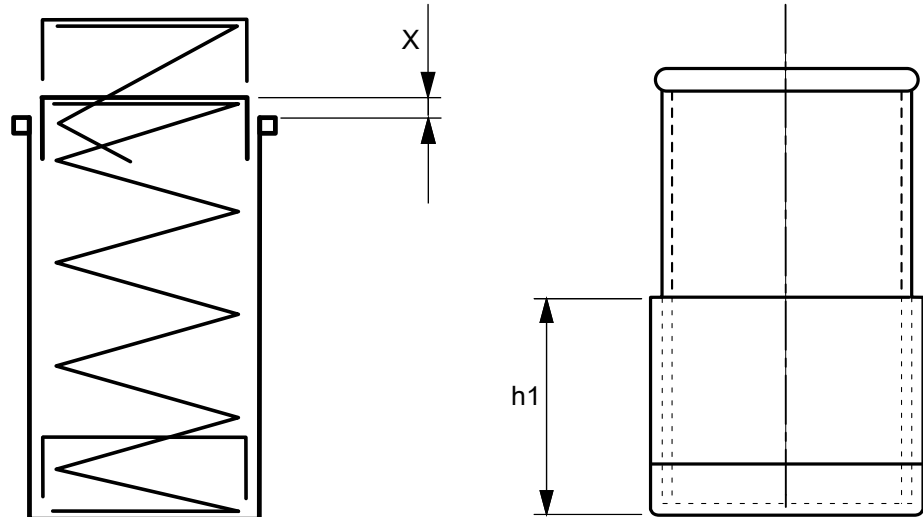


Figure 31: Requirement for the cans

- The trial and error can give an accurate spring force.
- The spring force should be decreased to 50 % for the voluminous fibers, for example PAN.
- If the cans are made from the vulcanized fiber, only use the cans that are made stronger in the area h1 if the cans are made from the vulcanized fiber.
- Only use the cans with the handles installed above the area h1 on the can.

3.5.8 Floor Plan (CBA-5)

All the dimensions are given in millimeter: mm.

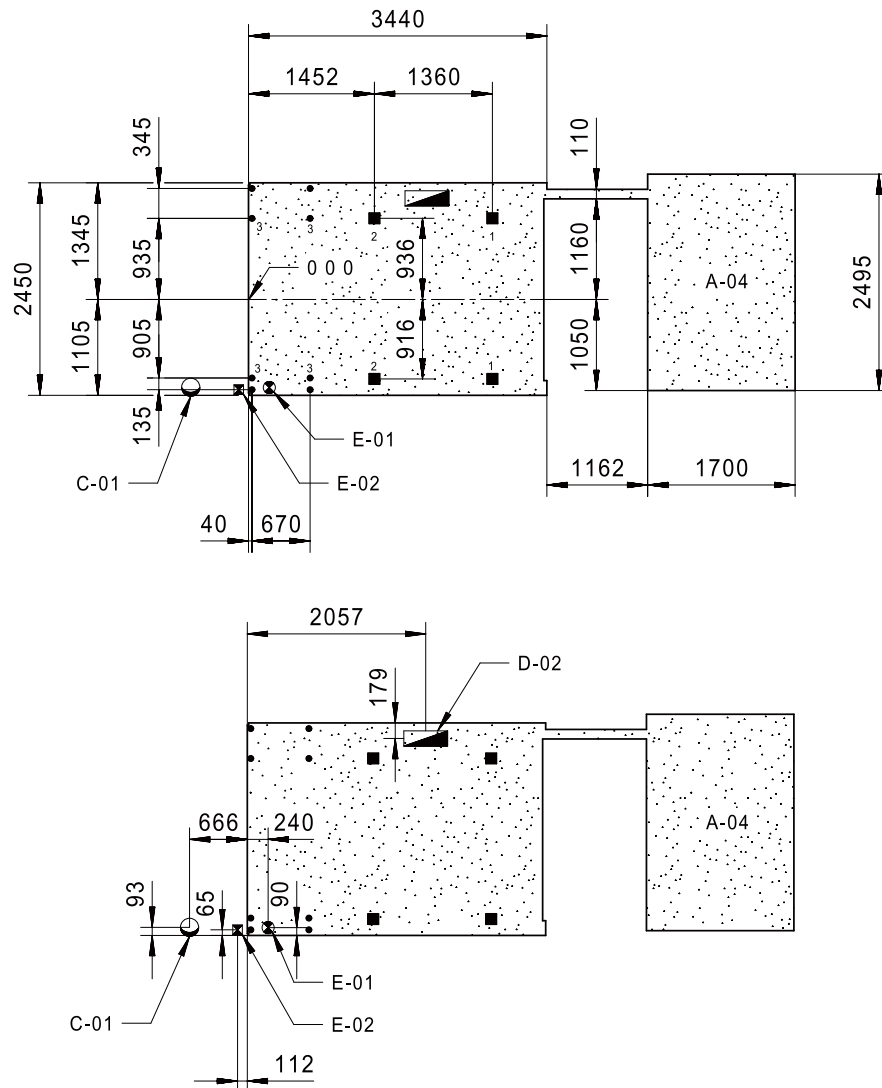


Figure 32: Floor plan

D-02	Central suction downwards (175 mm × 505 mm)	E-01	Electrical and pneumatic connection downwards (Ø 100 mm)
C-01	Licker-in separator downwards (Ø 210 mm)	E-02	Electrical and pneumatic connection upwards

Machine Weight on the Floor

Weight for each foot plate of the card chute	2 500 N
Weight for each foot plate in the entry section of the card	16 000 N

Weight for each foot plate in the
delivery section of the card

19 500 N

3.5.9 Floor Plan (CBA 1200)

All the dimensions are given in millimeter: mm.

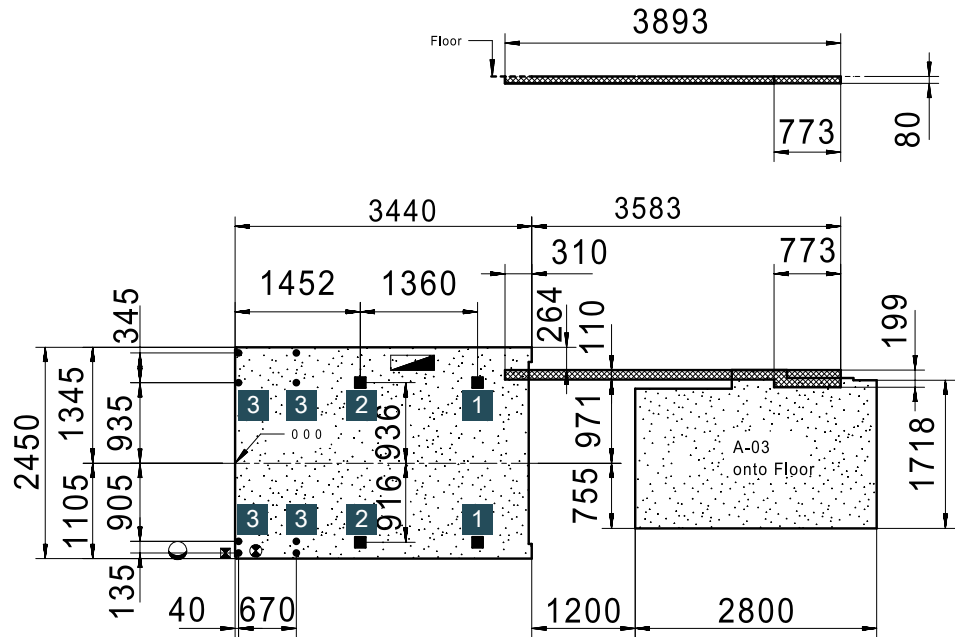


Figure 33: Floor plan _Lengthwise_A03

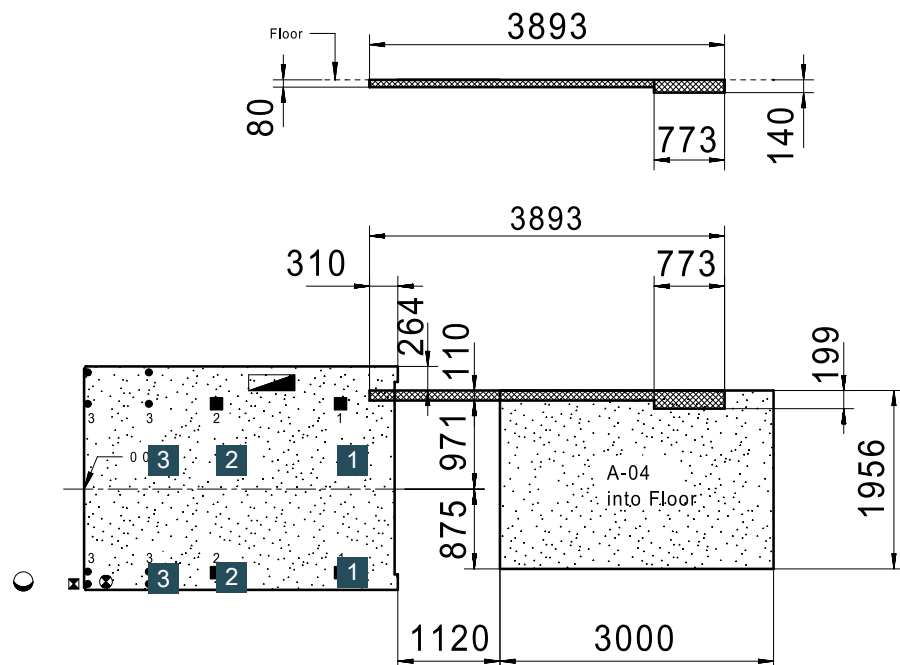


Figure 34: Floor plan _lengthwise_A04

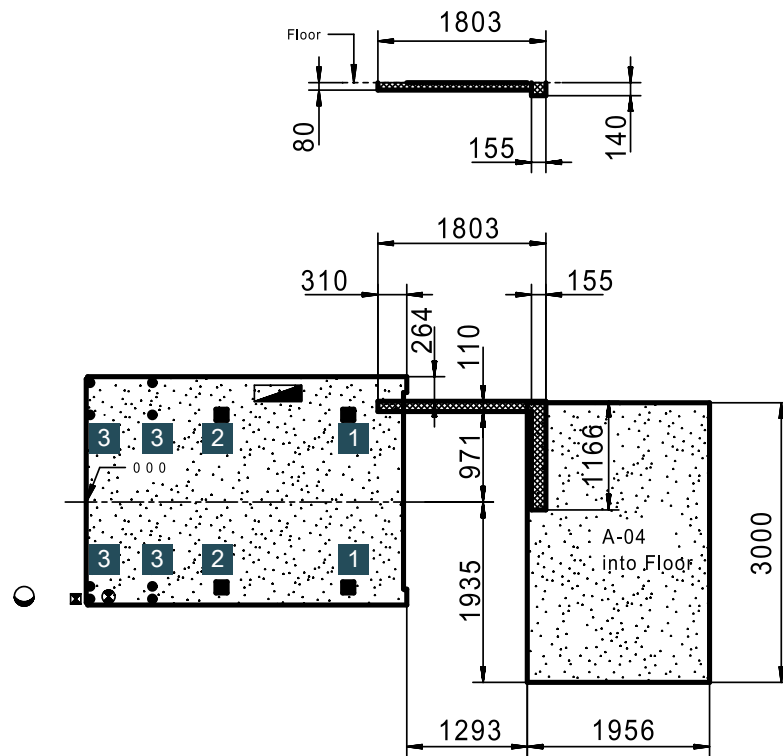


Figure 35: Floor plan_crosswise_A04

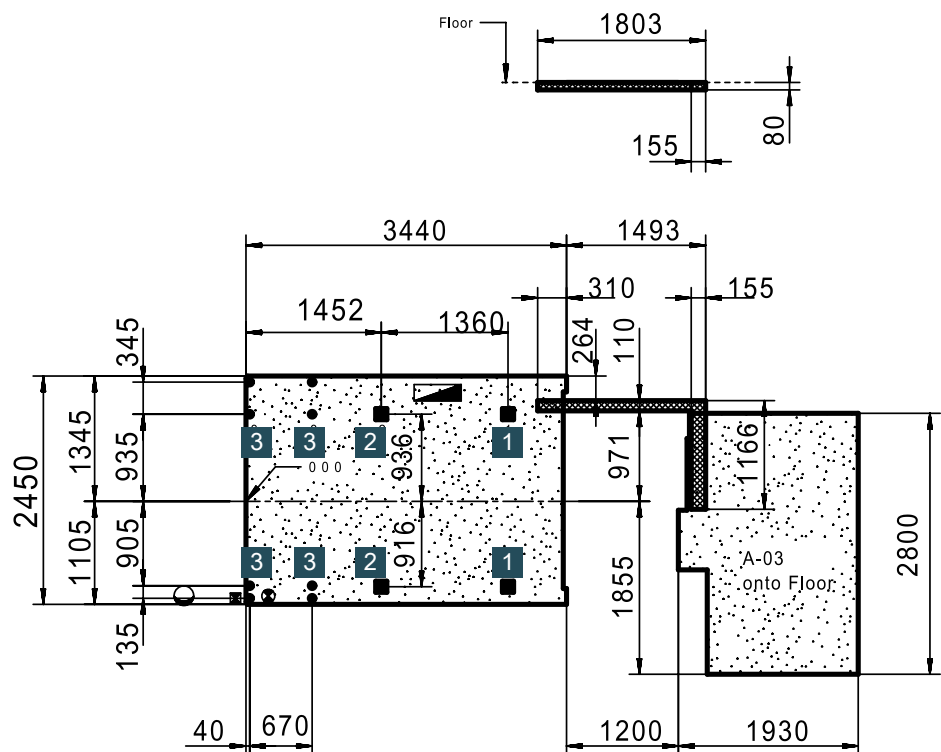


Figure 36: Floor plan_crosswise_A03

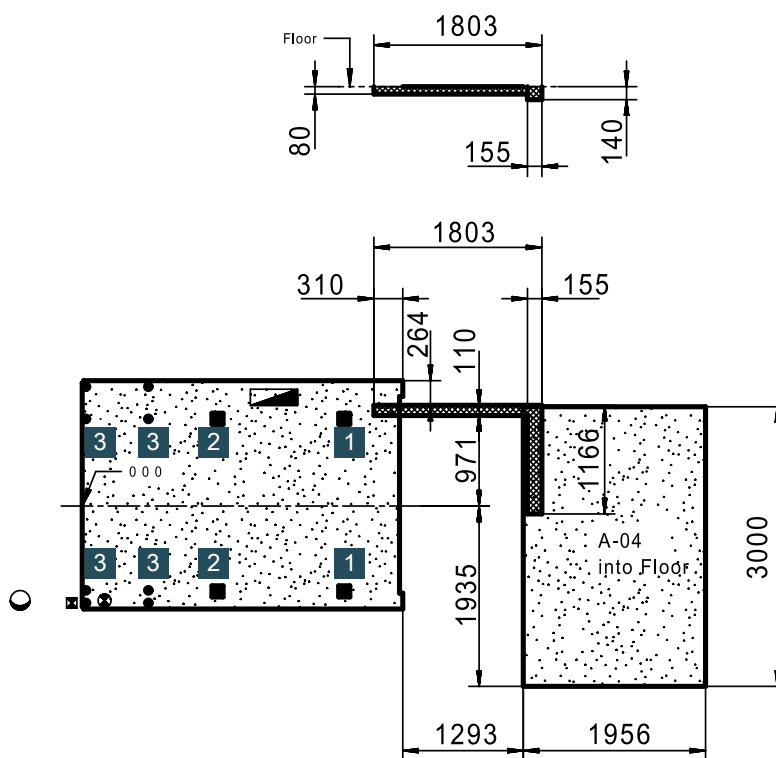


Figure 37: Floor plan_crosswise_A04

Type of support	Quantity	Dimension	Floor loading/ support
1	2	120×120 mm	19 500 N
2	2	120×120 mm	16 000 N
3	8	Ø 60 mm	2 500 N

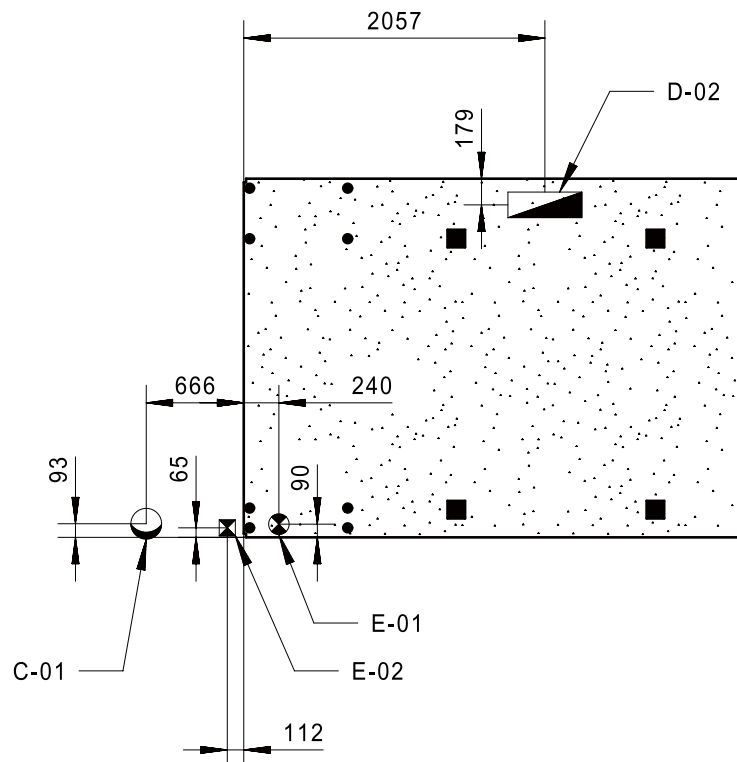


Figure 38: Floor plan_A03_A04

D-02	Central suction downwards (175 mm × 505 mm)	E-01	Electrical and pneumatic connection downwards (Ø 100 mm)
C-01	Licker-in separator downwards (Ø 210 mm)	E-02	Electrical and pneumatic connection upwards

Machine Weight on the Floor

Weight for each foot plate of the card chute	2 500 N
Weight for each foot plate in the entry section of the card	16 000 N
Weight for each foot plate in the delivery section of the card	19 500 N

3.6 Doors and Hoods

The doors and the hoods at the machine are shown in the figure that follows.

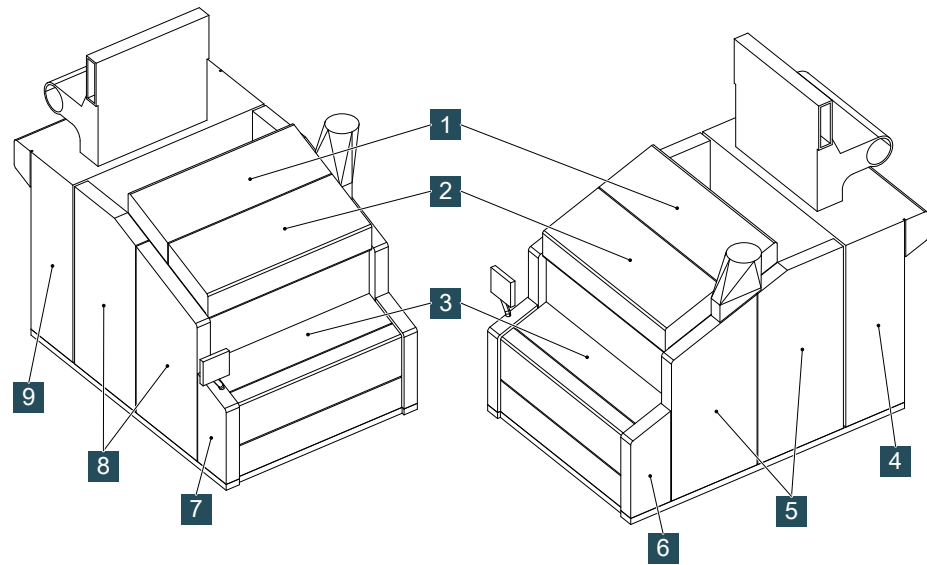


Figure 39: Doors and hoods at the machine

1	Rear hood	2	Front hood
3	Delivery unit hood	4	Electrical cabinet door at the right side
5	Folding door at the right side	6	Delivery unit door at the right side
7	Delivery unit door at the left side	8	Folding door at the left side
9	Electrical cabinet door at the left side		

Doors and Hoods with Locks

The machine has doors and hoods with locks. The twist locks prevent the doors and the hoods from accidental openings. The operator opens and closes the doors and the hoods with the triangular key.

The doors and the hoods with locks are as follows:

- Electrical cabinet door at the right side 4
- Electrical cabinet door at the left side 9
- Delivery unit door at the right side 6
- Delivery unit door at the left side 7

Doors and Hoods with Safety Switches

The machine has doors and hoods with safety switches. The safety switches stop the machine if the doors or hoods are opened during the machine operation.

The machine that has doors and hoods with safety switches are as follows:

- Electrical cabinet door at the right side 4

- Folding door at the right side **5**

3.7 Covers at the Machine

3.7.1 Cover of the Cylinder

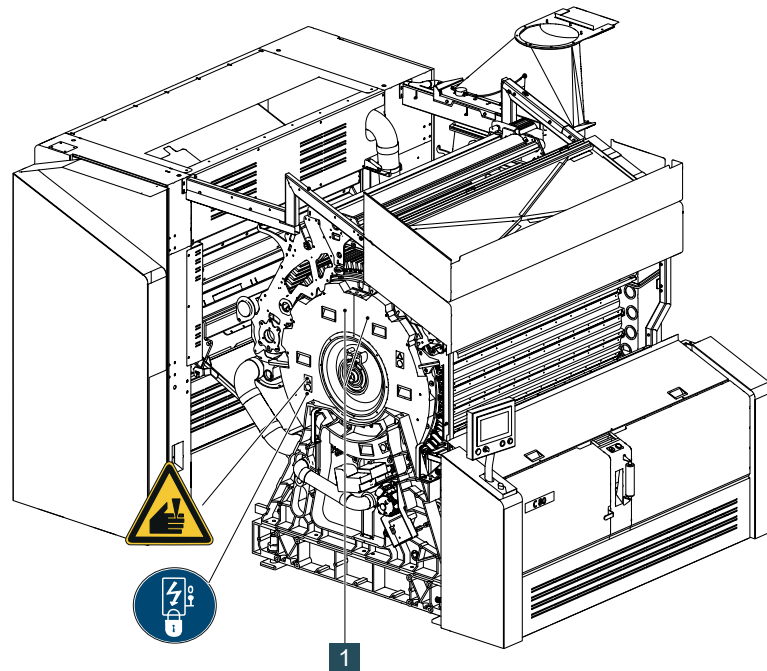


Figure 40: Cover of the cylinder

The machine must be stopped before any covers are removed.

When the covers **1** are opened, the cylinder has the risk of drawing in hands. Hand injuries can occur if the operator puts the hand in the cylinder.

The operator must not be permitted to remove the covers **1** when the machine is in operation.

After the maintenance work or the repair work, the cover **1** must be installed back.

3.7.2 Cover of the Clearer Roller Drive

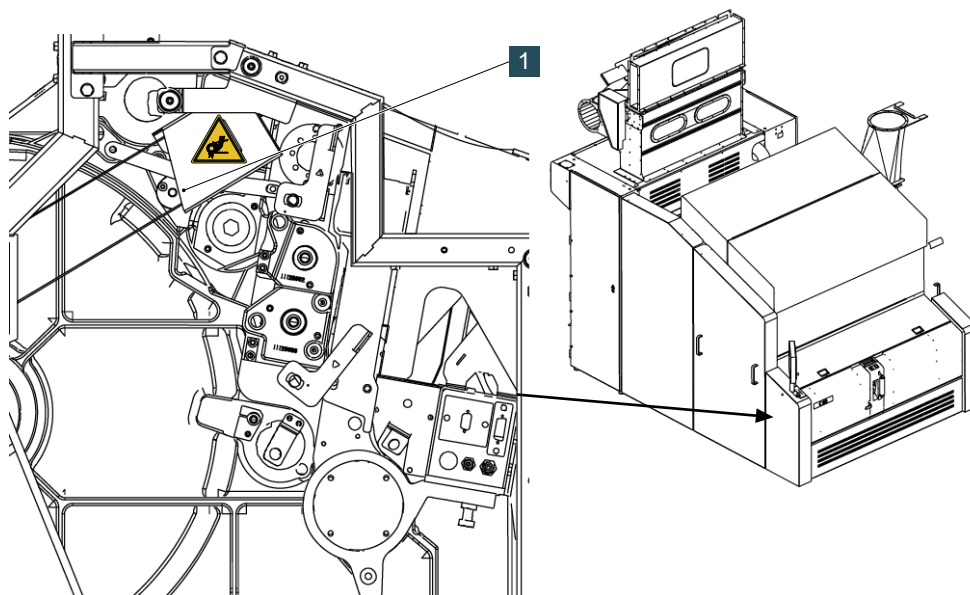


Figure 41: Brush drive

The clearer roller drive has the risk of drawing in hands. Hand injuries can occur if the operator puts the hand into the clearer roller drive.

The operator must not be permitted to remove the cover **1** when the machine is in operation.

After the maintenance work or the repair work, the cover **1** must be installed back.

3.7.3 Cover of the Doffer Drive at the Delivery Unit

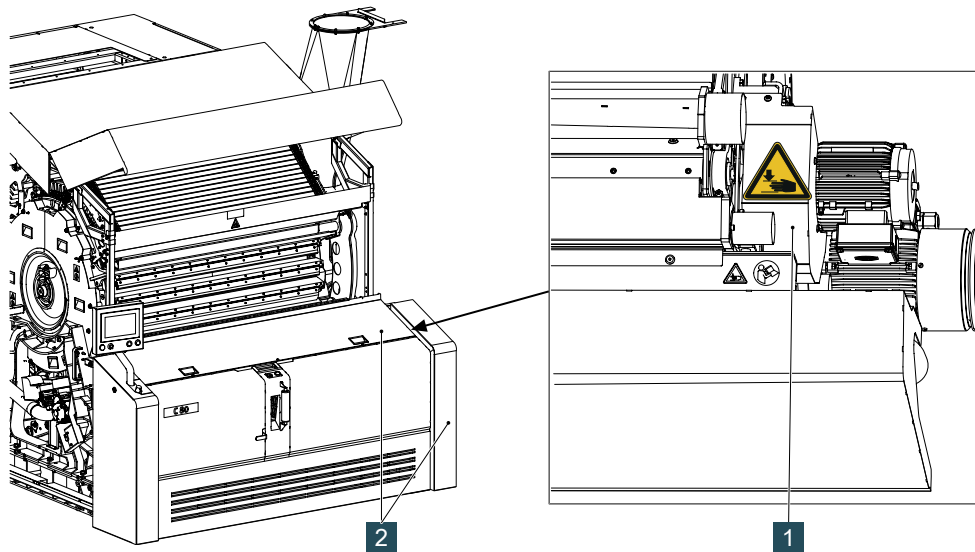


Figure 42: Danger zone at the delivery unit

When the cover **2** is opened, the doffer drive has the risk of drawing in hands. Hand injuries can occur if the operator puts the hand in the doffer drive.

The operator must not be permitted to remove the safety cover **1** when the machine is in operation.

After the maintenance work or the repair work, the cover **2** must be installed back.

3.7.4 Front Cover of the Delivery Unit

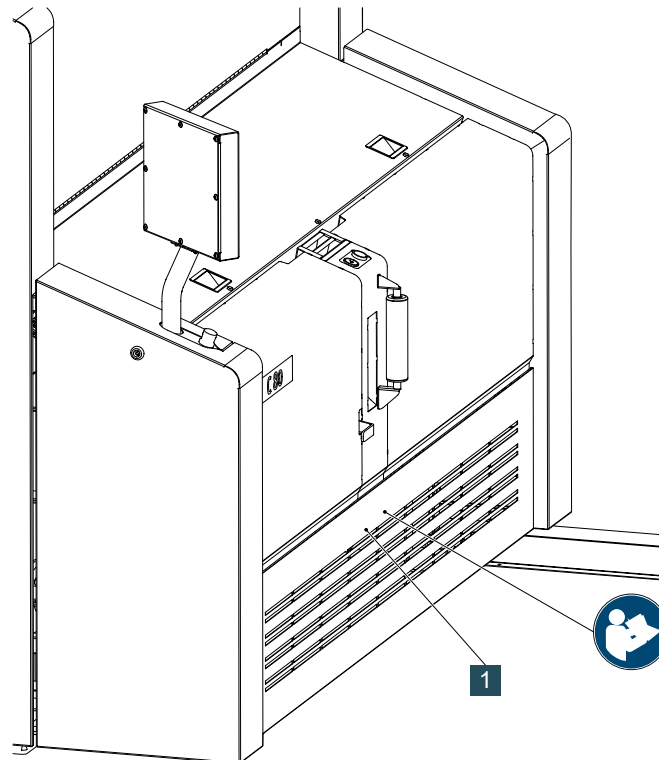


Figure 43: Front cover sheet of the delivery unit

Injuries can occur when the operator removes the front cover **1** because the moving parts are behind the front cover **1**.

The operator is only permitted to remove the front cover **1** when the machine is at a standstill.

3.7.5 Cover of the IGS-classic Drive

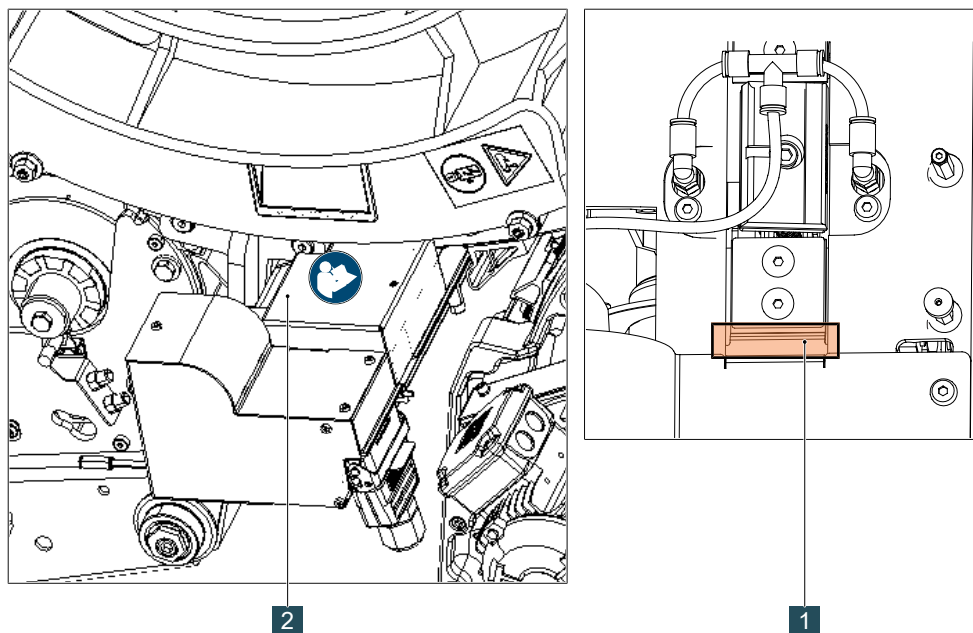


Figure 44: IGS-classic drive

If the cover **2** is removed, the gap **1** is possible to be touched.

The gap **1** is equal to or less than 3 mm between the edge of the cover sheet and the belt of the IGS-classic drive.

The belt starts to move when a grinding cycle starts. Injuries can occur at this time.

Before doing the maintenance work or repair work at the IGS-classic, make sure that the IGS-classic is at a standstill.

3.7.6 Cover of the Cross Apron Unit

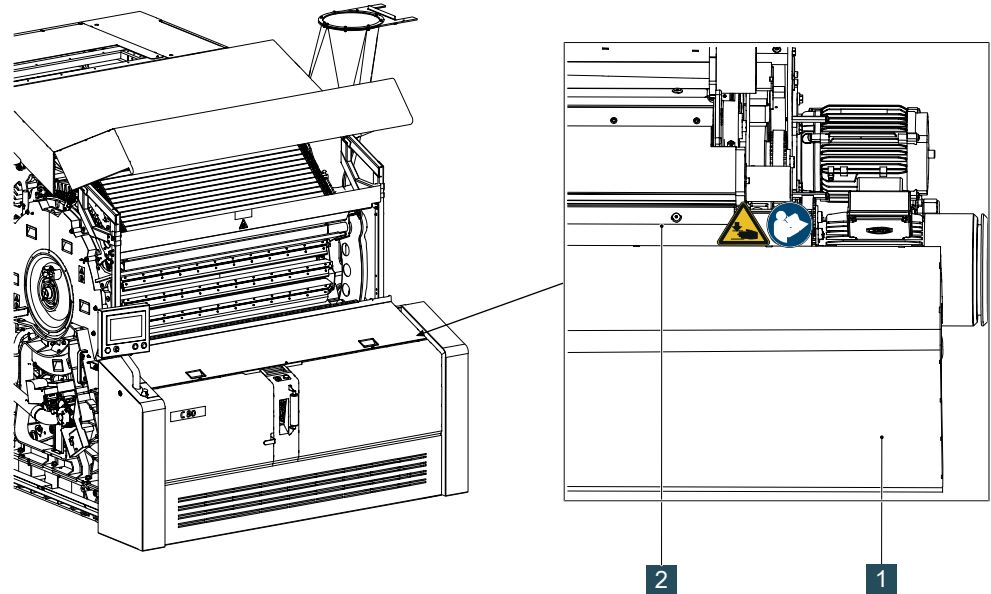


Figure 45: Cover of the cross apron unit

When the cover **2** of the cross apron unit **1** is removed, the belts of deflection rollers have the risk of drawing in hands. Hand injuries can occur if the operator puts the hand in the running belts.

The operator must not remove the cover **2** of the cross apron unit **1** during the production.

3.8 Identification Plate

1 machine identification plate is at the card chute. 1 machine identification plate is at the frame of the cylinder inside the machine cover.

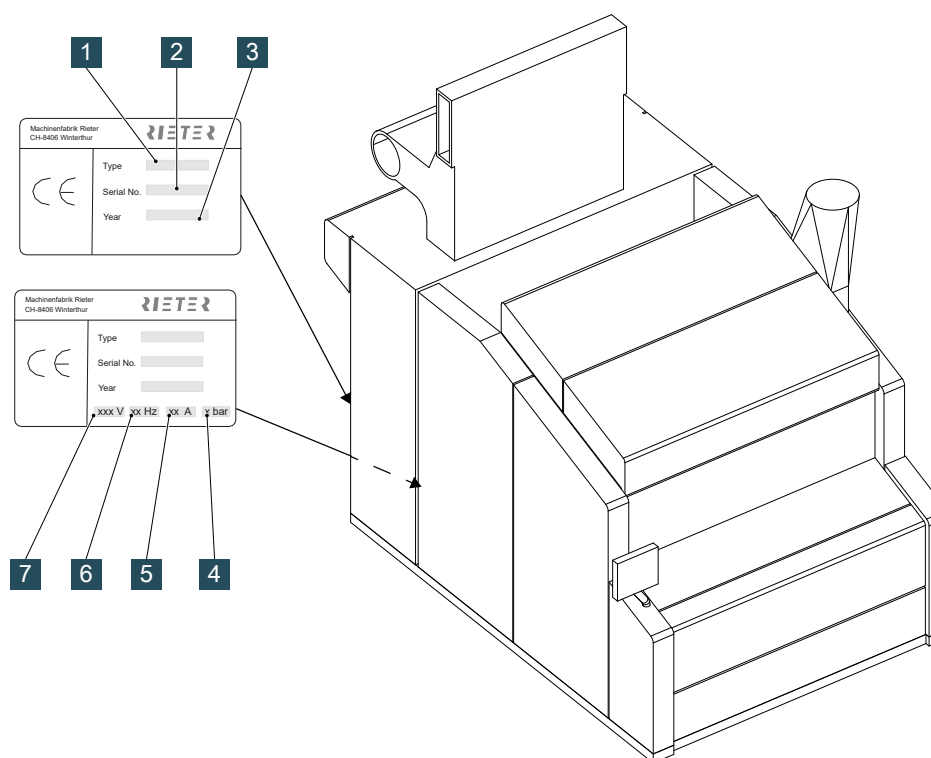


Figure 46: Identification plates at the machine

1	Machine type	2	Serial number
3	Year of manufacture	4	Compressed-air supply
5	Power consumption	6	Supply frequency
7	Voltage		

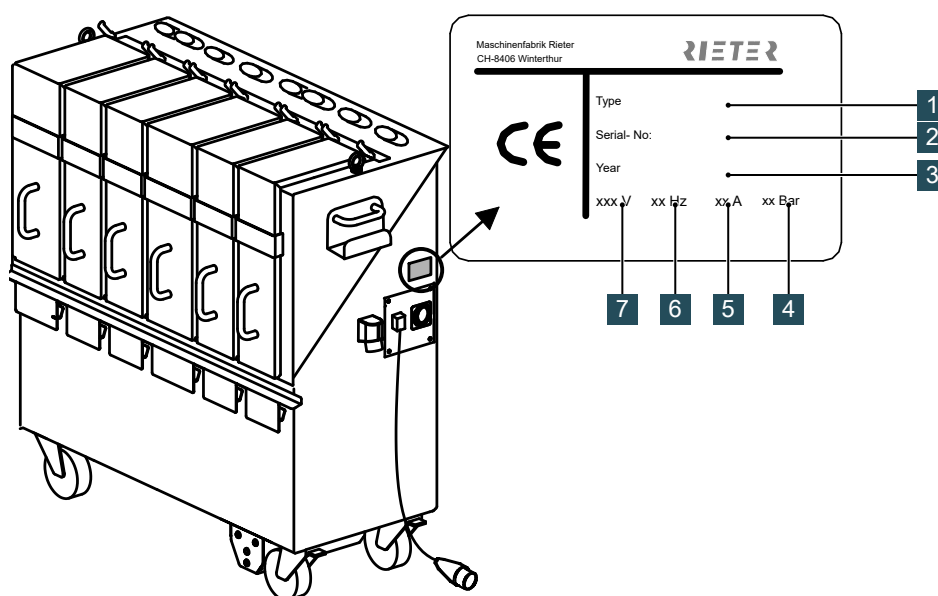


Figure 47: Identification plate of UNIconnect

1	Machine type	2	Serial number
3	Year of manufacture	4	Compressed-air supply
5	Power consumption	6	Supply frequency
7	Voltage		

3.9 EC-Certificates and Standards



EC / EU DECLARATION OF CONFORMITY

Maschinenfabrik Rieter AG
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CH-8406 Winterthur
T +41 52 208 71 71
F +41 52 208 70 60
www.rieter.com

Winterthur, 13. November 2020

Maschinenfabrik Rieter AG declares that the product

Card C 80

Serial Numbers: (Card C 80) 40028509-xxxxx
(Chute C 80) 40026278-xxxxx
(Silver deposit C 80) 40026279-xxxxx

fulfills the following relevant provisions:

2006/42/EG	Machinery Directive Reference - Directive 2006/42/EG, EU-Journal No. L 157/24 of June 9, 2006
2011/65/EU	Directive for the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) Reference - Directive 2011/65/EU, EU-Journal No. L 174/88 of July 1, 2011
2014/30/EU	EU - Directive electromagnetic compatibility Reference - Directive 2014/30/EU, EU-Journal No. L 96/79, March 29, 2014

including their modifications

Used harmonized standards (including modifications):

EN ISO 11111-1:2016	Textile machinery - Safety requirements Part 1: Common requirements
EN ISO 11111-2:2016	Textile machinery - Safety requirements Part 2: Spinning preparatory and spinning machines
EN 60204-1:2006+A1:2009	Safety of machinery - Electrical equipment of machines Part 1: General requirements

Person authorized to compile the technical file:

Martin Omlin, Product Safety Officer Card (a.i.),
Maschinenfabrik Rieter AG, Klosterstrasse 20, 8406 Winterthur, Switzerland

Maschinenfabrik Rieter AG

Thomas Walther
Head Fibre Preparation

Christian Sauter
Head R&D Card

Figure 48: EC declaration of Conformity_C80

EC / EU DECLARATION OF CONFORMITY

Maschinenfabrik Rieter AG
 Klosterstrasse 20
 CH-8406 Winterthur
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 www.rieter.com

Winterthur, 13. November 2020

Maschinenfabrik Rieter AG declares that the product

Accessories C80

Serial Number: 40028585-xxxxx

fulfills the following relevant provisions:

2006/42/EG	Machinery Directive Reference - Directive 2006/42/EG, EU-Journal No. L 157/24 of June 9, 2006
2011/65/EU	Directive for the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) Reference - Directive 2011/65/EU, EU-Journal No. L 174/88 of July 1, 2011
2014/30/EU	EU - Directive electromagnetic compatibility Reference - Directive 2014/30/EU, EU-Journal No. L 96/79, March 29, 2014

including their modifications

Used harmonized standards (including modifications):

EN ISO 11111-1:2016	Textile machinery - Safety requirements Part 1: Common requirements
EN ISO 11111-2:2016	Textile machinery - Safety requirements Part 2: Spinning preparatory and spinning machines
EN 60204-1:2006+A1:2009	Safety of machinery - Electrical equipment of machines Part 1: General requirements

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Maschinenfabrik Rieter AG



Thomas Walther
 Head Fibre Preparation



Christian Sauter
 Head R&D Card

Figure 49: EC declaration of Conformity_C80 Accessories

4 Packaging and Transportation

This chapter contains the information about:

- The general packaging instructions
- The packaging
- The packaging accessories
- The instructions on the safe machine transport

4.1 Packaging and Transportation Personnel

Only Rieter approved personnel are permitted to:

- Transport the machine
- Remove or install the packing material
- Remove the machine from the material boxes or the transportation pallets
- Install the machine in the material boxes or on the transportation pallets

4.2 Liability for Unloading and Transportation

The customer is generally liable for the transportation to the installation site and the temporary storage. The customer is generally liable to unload the machine components at the installation site.

The installation personnel does not transport machine components to the installation site or unload components at the installation site. In the case that guidance from the installation personnel is necessary, the installation personnel cannot be held responsible for any damage that may arise.

4.3 Unpacking

1. Open the material boxes. Remove the packing material.
2. Examine if the machine or parts of the machine got damage during the transport.
3. If machine damage occurred, the personnel must tell the customer to give a report to the insurance office.
4. Use the pack list to examine the contents of the material boxes for missing parts.
5. If the material boxes do not contain all parts, the personnel must tell the customer to give a report to Rieter.
6. Remove the transport locks from the material boxes and the transportation pallets.

4.4 Measuring the Entry Area to the Installation Site

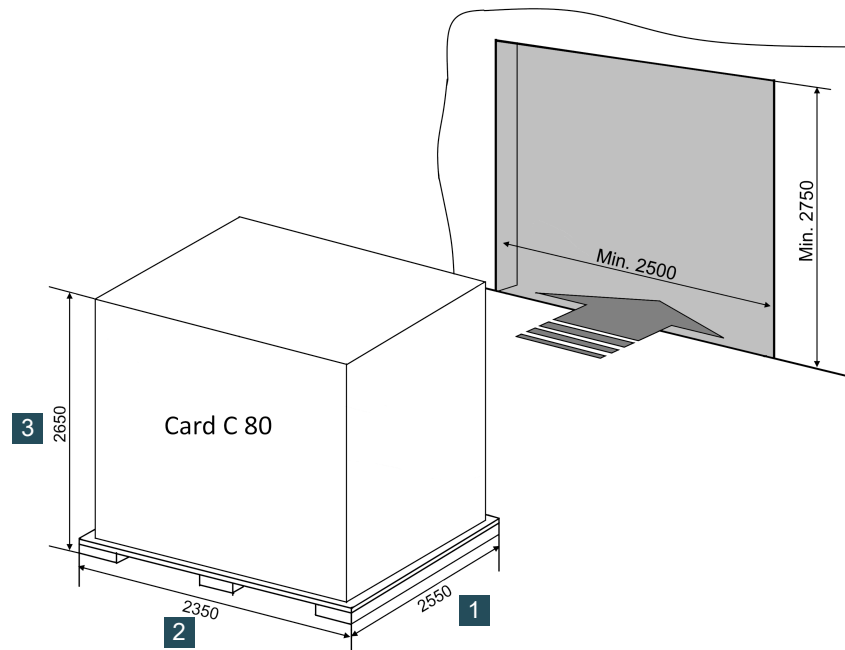


Figure 50: Dimension of the machine

Parameter	Value
Length 1	2550 mm
Width 2	2350 mm
Height 3	2650 mm

The factory entrance and all passageways which are leading to the installation site must therefore be at least 2500 mm wide and 2750 mm high.

4.5 Moving the Machine from the Truck

This section contains the information about how to move the machine from the truck.

4.5.1 Unloading the Truck without Ramp

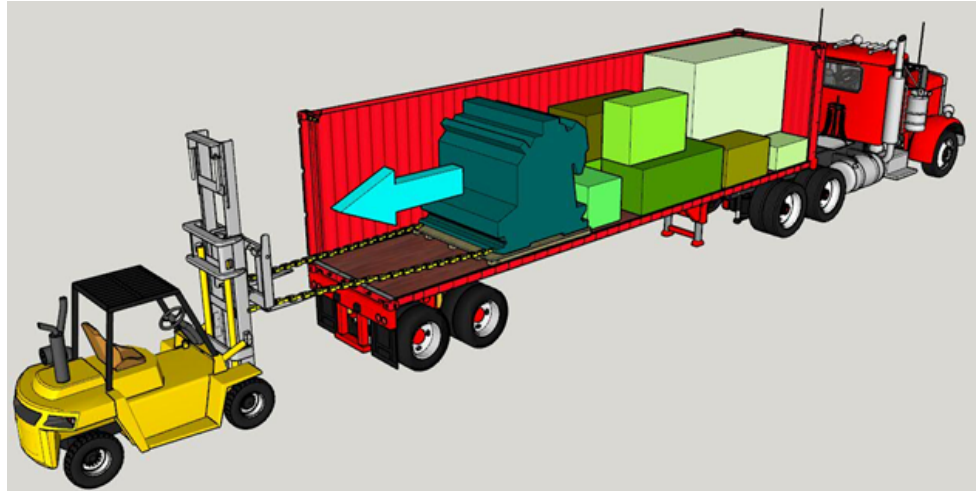


Figure 51: Unloading the truck (without ramp)

Prerequisites Make sure that the criteria are obeyed:
✓ The ramp is not available to move the machine from the truck.



NOTICE

Incorrect machine unloading!

Incorrect handling damages the machine

- ▶ Do not use the crane to unload or load the truck.
- ▶ Use the forklift with a minimum lifting capacity of 8000 kg.
- ▶ Unload the machine only from the rear side of the truck.
- ▶ Do not unload the machine from the long side of the truck.

1. Unload accessories until the machine is freely accessible.
2. Attach each chain or belt with a minimum tensile force of 5000 kg to the steel frame of the pallet.
3. Pull the machine cautiously with a forklift to the end of the container or the trailer.
4. Remove the chains or belts carefully.
5. To lift the machine, use a forklift with a minimum lifting capacity of 8000kg and the correct fork inclination.

Result The truck is unloaded without ramp.

4.5.2 Unloading the Truck with Ramp

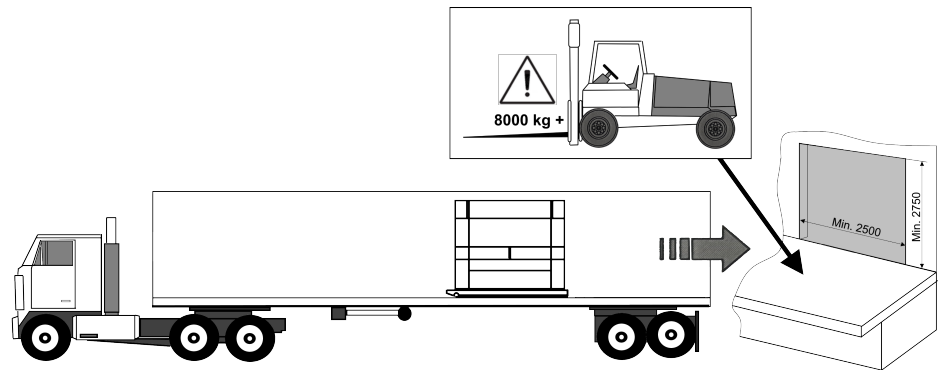


Figure 52: Unloading the truck (with ramp)

Prerequisites Make sure that the criteria are obeyed:

- ✓ The ramp is available to move the machine from the truck.

**NOTICE****Incorrect machine unloading!**

Incorrect handling damages the machine and the ramp.

- ▶ Make sure that the ramp has the capacity to bear the weight of 8000kg plus the weight of the forklift used.
- ▶ Do not use the crane to unload or load the truck.
- ▶ Unload the machine only from the rear side of the truck.
- ▶ Do not unload the machine from the long side of the truck.

1. Unload accessories until the machine is freely accessible.
2. Attach each chain or belt with a minimum tensile force of 5000 kg to the steel frame of the pallet.
3. Pull the machine cautiously with a forklift to the end of the container or the trailer.
4. Remove the chains or belts carefully.
5. To lift the machine, use a forklift with a minimum lifting capacity of 8000kg and the correct fork inclination.

Result The truck is unloaded with ramp.

4.6 Lifting the Card with Forklift

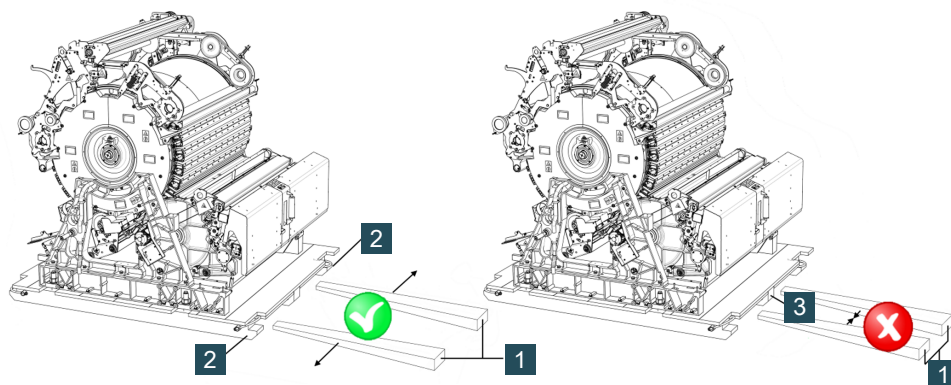


Figure 53: Lifting the machine



NOTICE

Machine is lifted incorrectly!

Incorrect handling damages the machine.

- ▶ Make sure that a correct forklift is used to lift the machine.
- ▶ Put the forks as close to the reinforcements as possible.
- ▶ Make sure that the forks have enough distance to the reinforcement.

4.7 Transporting the Machine with Forklift

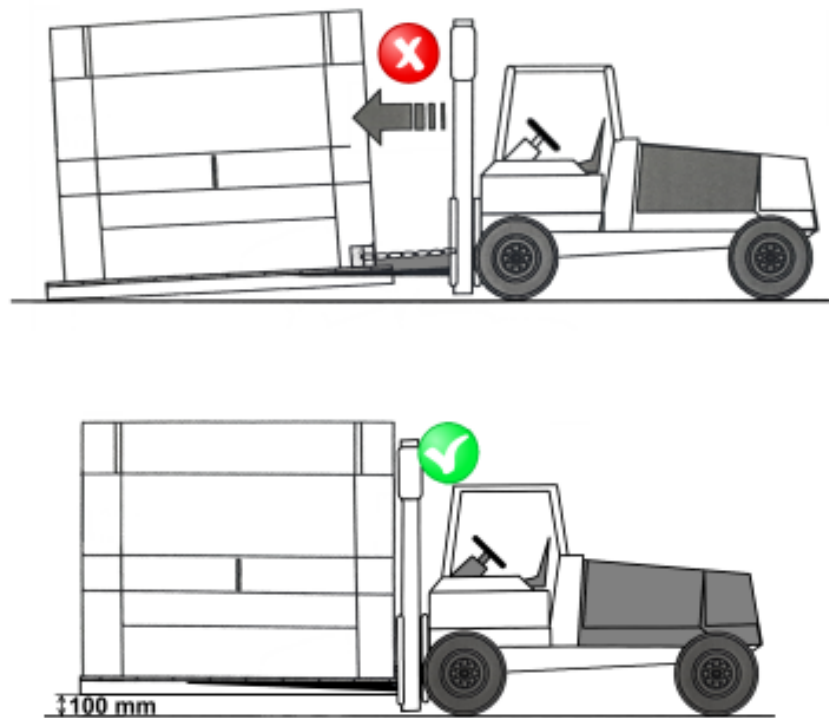


Figure 54: Transporting with forklift



NOTICE

Incorrect use of forklift!

Incorrect handling damages the machine

- ▶ Do not push the machine.
- ▶ Make sure that the forks must be fully inserted.
- ▶ Lift the machine completely, maximum 100mm above the ground.

5 Installation

This chapter contains the information about:

- The necessary installation conditions
- The necessary installation personnel
- How to prepare the set-up location for the machine.
- The necessary installation material
- The installation of the machine

5.1 Floor Condition

Floor Structure

If the floor structure is not stable or not flat, the machine is possible to be damaged.

Only approved personnel can make a plan of the floor structure. The floor load of each machine foot is to be obeyed. The soft materials such as slag, sand, and asphalt are not to be used as an intermediate layer **2**. If the soft materials are used as the intermediate layer, the vibration that the machine causes makes the intermediate layers **2** move.

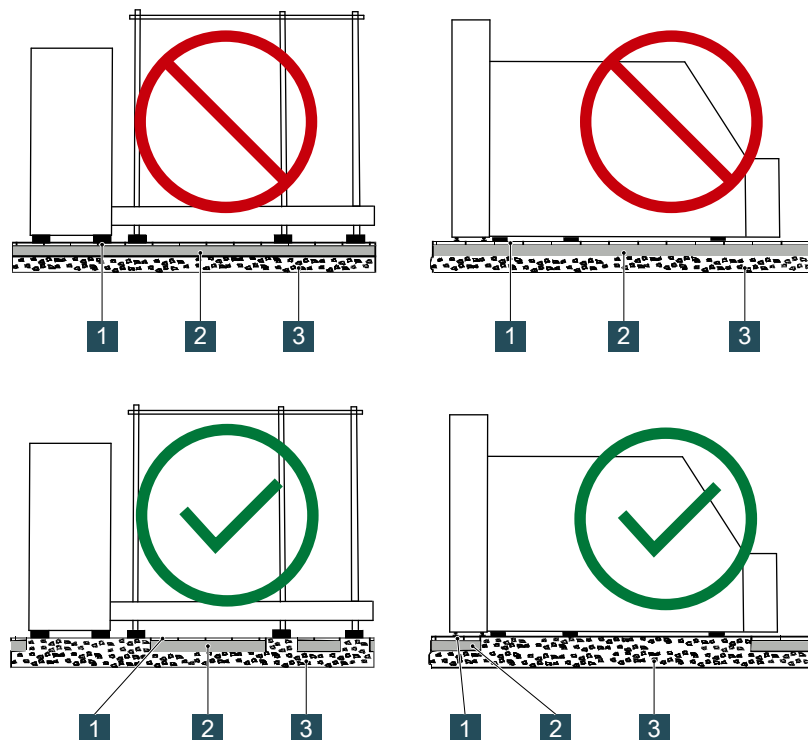


Figure 55: Floor condition

1 Flooring

2 Intermediate layer

3 Concrete substrate

The flooring **1** such as clinker, concrete slabs, or hard surfaces are not to be installed on the intermediate layers **2** that are made of slag, sand, and asphalt. To have a horizontal surface, minimum the area of the machine foot is to be filled with concrete substrate **3**.

Rieter accepts no liability for machine damage that is caused because the incorrect floor structure was used.

Floor Properties

The floors must have the properties that follow:

- Not aggressive to metals
- High abrasion resistance
- High compressive strength
- Slip-resistant
- Hard and tough, non-ceramic
- Resistant to oils, fuel, acids, and alkalis

Level and Evenness of the Floor

For each running meter	±4 mm
For each 4 m	±10 mm

5.2 Installation Requirements for the Customer

The customer:

- Gives an introduction about the danger zones of the installation site
- Tells the installation personnel about the site-specific safety regulations
- Makes sure the site-specific safety
- Must install the necessary rails
- Makes sure that the training for the installation personnel is held before the installation
- Makes sure that the installation personnel of the customer is not changed during the installation
- Makes sure that the installation personnel have access to the operation manual

5.3 Installation Personnel

Only Rieter personnel or Rieter approved personnel are permitted to install the machine.

5.4 Examining If the Floor Is Horizontal

1. Attach a spirit level to a straight edge or use the masoner's spirit level directly.
2. Lift the spirit level **2** to a height with an applicable object **1** from the reference point **3**, and make sure that the height is less than 50 mm in accordance with the floor condition.

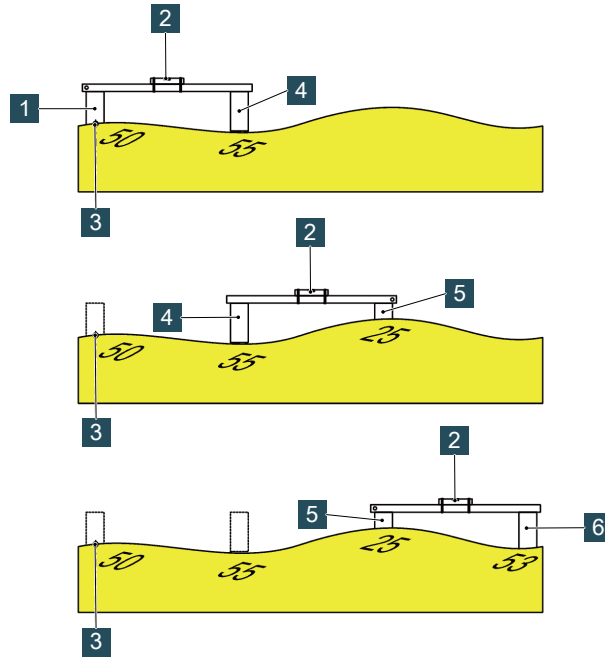


Figure 56: The floor leveling procedure

3. Record the height of the object **1**.
4. Put the object **4** below the spirit level **2** to make the spirit level **2** fully horizontal.
5. Record the height of the object **4**.
6. Turn over the spirit level **2** to make one end of the spirit level **2** above the third measuring point.
7. Put the object **5** below the spirit level **2** to make the spirit level **2** fully horizontal.
8. Record the height of the object **5**.
9. Record the height of the object **6** with the same procedure of steps 6 and 7.
10. If the height difference between the lowest point and the highest point is not in the tolerances: maximum 4 mm / m and maximum 10 mm / 4 m, make a decision if the machine is possible to be put on the floor.

Result The floor is examined on the horizontal situation.

5.5 Making Marks on the Floor

Marks on the floor are necessary to install the machine at the correct position. If the marks on the floor are obeyed, the correct distances between the assemblies are kept and the installation of the AEROfeed pipe is correct.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The floor is cleaned.
 - ✓ A tape measure is to be used.
1. Have a discussion with the customer about the installation plan.
 2. Make the line **1** for the rear position of the card chutes.

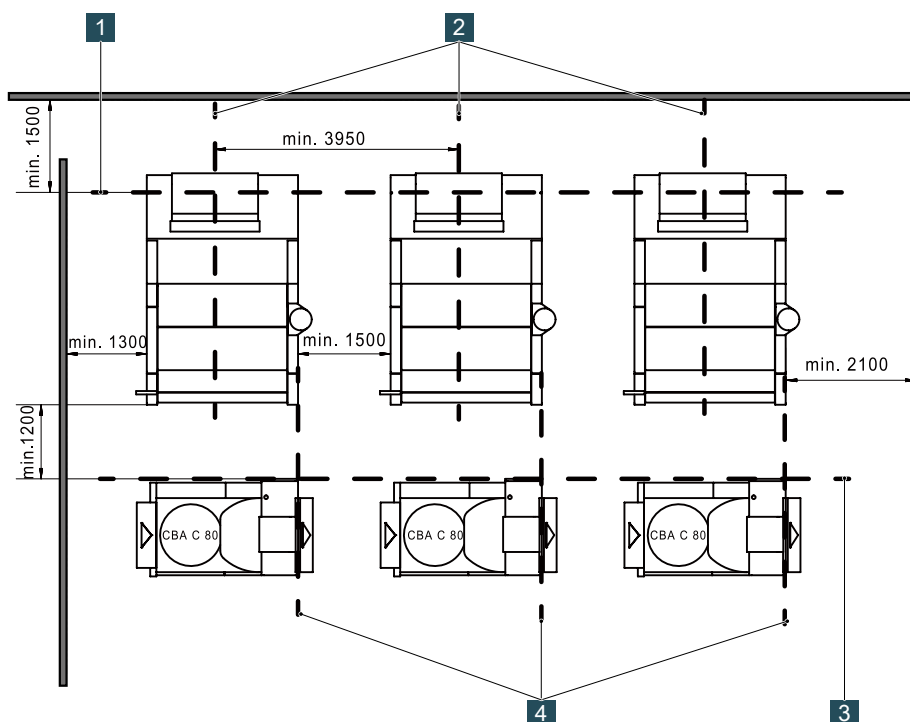


Figure 57: Example of the floor marks

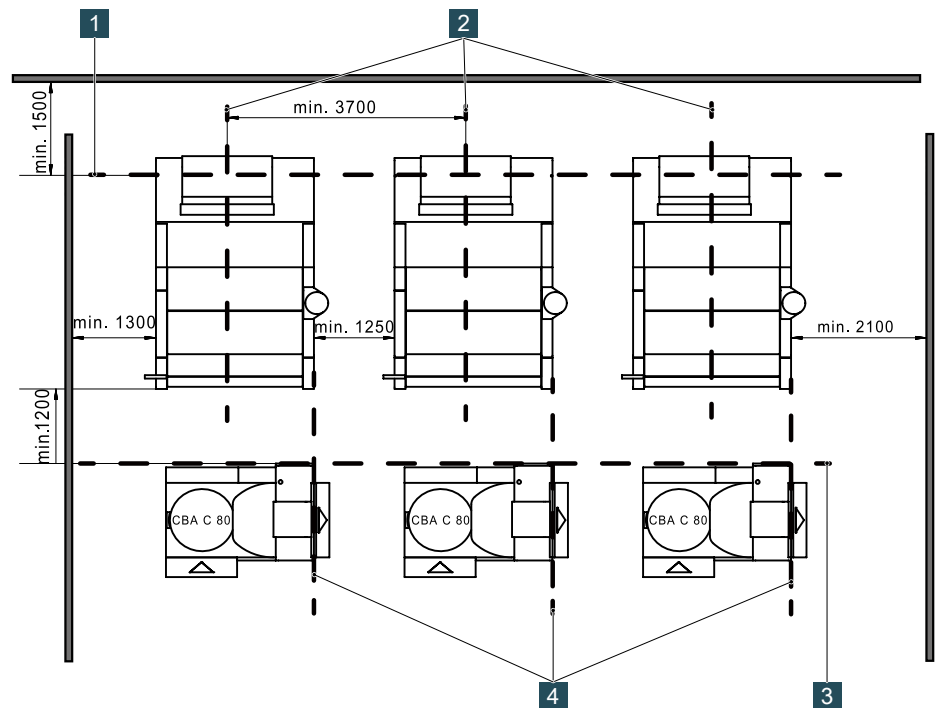


Figure 58: Examples of floor marks (crosswise feed)

3. Make the center lines **2**.
4. Make a 90° angle to the center line. See *Making a 90° Angle* ► 85
5. Make the lines **3** and **4** for the installation position of the sliver coiling devices or the RSB-Modules.
6. Do a check of all floor openings.
7. Do a check of all given distances in accordance with the lines.

Result The marks on the floor are made.

5.5.1 Making a 90° Angle

This section contains the information about making a right angle with the largest possible radius.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The floor is to be cleaned.
- ✓ 1 piece of measuring cord or 1 piece of measuring rod with 2 points is to be used.

1. Make a mark of a straight line **1** on the floor.

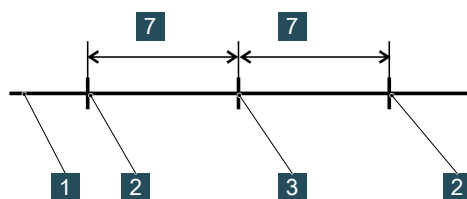


Figure 59: Guide marks on the straight line

2. Make an intersection **3** on the straight line **1**.
3. Make the guide marks **2** with the possible largest distances **7** on the 2 sides of the intersection **3**.
4. Make the circular lines **5** with the measuring cord **4** or the measuring rod **4** with 2 points by starting at the 2 guide marks **2** (the radiation of the circular line is 1.5 times of the distance **7**).

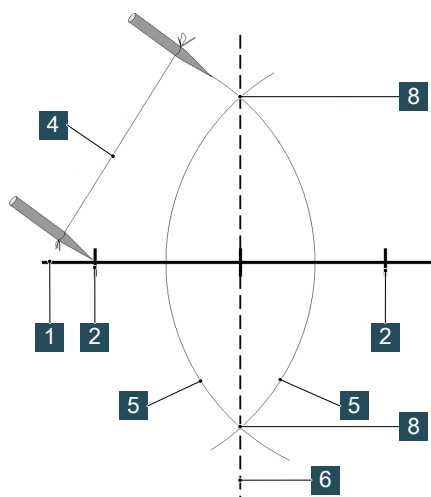


Figure 60: Vertical line on the straight line

5. Make the line **6** with the 2 intersections **8** of the circular lines **5**.
⇒ The perpendicular line of the straight line **1** is made.
6. If necessary, make more lines that are parallel with the line **6**.

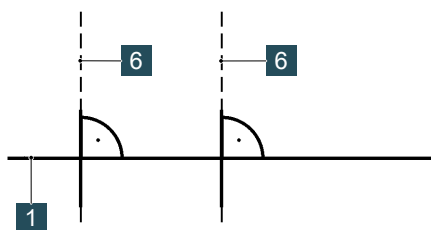


Figure 61: Parallel lines on the straight line

Result The 90° angle is made.

6 Commissioning

This chapter contains the information about:

- The commissioning personnel
- The initial commissioning of the machine
- The recommissioning after a temporary decommissioning
- The function test

6.1 Commissioning Personnel

Only Rieter personnel or Rieter approved personnel are permitted to commission the machine.

6.2 Recommissioning after a Temporary Decommissioning

For the recommissioning of the machine the check list that follows is to be used:

- The machine is in a damage-free condition.
- The power supply is connected.
- The compressed-air supply is connected.
- The anti-corrosion agent is removed.
- All technology components are clean.
- Tension is applied to all timing belts, flat belts, or V-ribbed belts.
- The padlock is removed from the main switch.
- The direction of rotation of the motors is examined.
- Necessary operating fluids are filled.

6.3 Introduction to Commissioning

The commissioning work has 4 different situations that follows:

Initial commissioning after installation

Machines that are produced by Rieter must be commissioned by Rieter personnel.

See Initial Commissioning without Material

However, if the installation or initial commissioning is executed by a third party, Rieter rejects all and any form of liability.

Commissioning after assortment change

After each assortment change, the settings has to be made accordingly.

See Setting the Machine into Operation

Commissioning after maintenance and repair work

After the maintenance and repair work, the machine has to be commissioned.

See Commissioning without Material

Recommissioning after temporary decommissioning

For recommissioning, the following check list must be used.

See Check list for the Commissioning

6.4 Commissioning without Material

This section contains the information about commissioning without material for the parts that follows:

- Operating unit
- Machine configuration
- Door locking mechanism
- Control unit
- Safety relay
- Sensors
- Drives
- Coiler

6.4.1 Adjusting Sensors

6.4.1.1 Card Chute

6.4.1.1.1 Adjusting the Proximity Switch for the Opening Roller

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. Set the distance **X** between the proximity switch **2** and the pulse generator **1** to 2 mm.

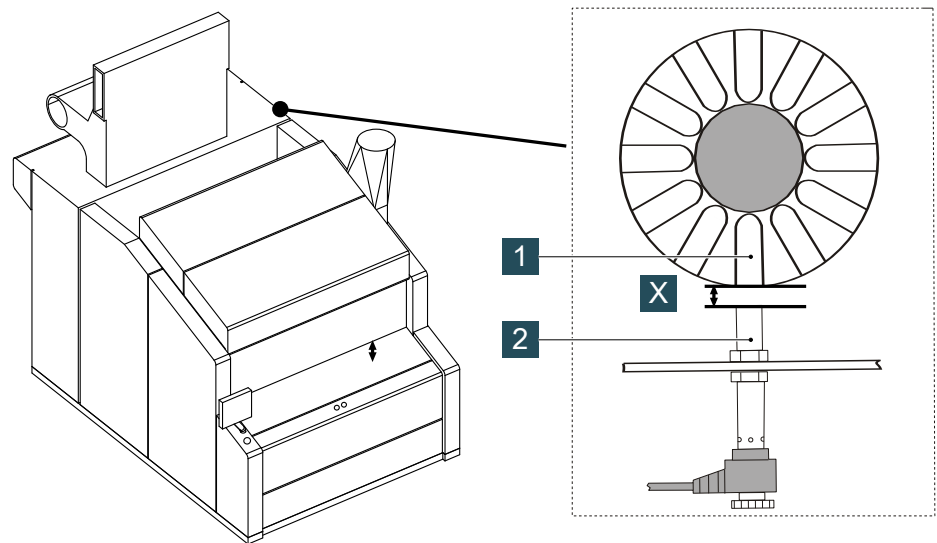


Figure 62: Proximity switch for the opening roller

2. Set the main switch to the position ON.
3. Select the operating mode **Test mode** in the data screen 4.1.5.
4. Select the data screen 4.2.5.2.
5. Start the opening roller.
6. Read the value in the field **Prox. sw. PPV min / max**.
7. Compare the difference between the maximum value and the minimum value.
 - ⇒ If the difference is less than 10, the values are adjusted correctly.
 - ⇒ If the difference is more than 10, replace the pulse generator.
 - ⇒ If the minimum value is low, decrease the distance **X**.
 - ⇒ If the maximum value is high, increase the distance **X**.

Result The proximity switch for the opening roller is adjusted.

6.4.1.1.2 Calibrating the Pressure Monitor Sensor

There are 2 pressure monitor sensors at the machine.

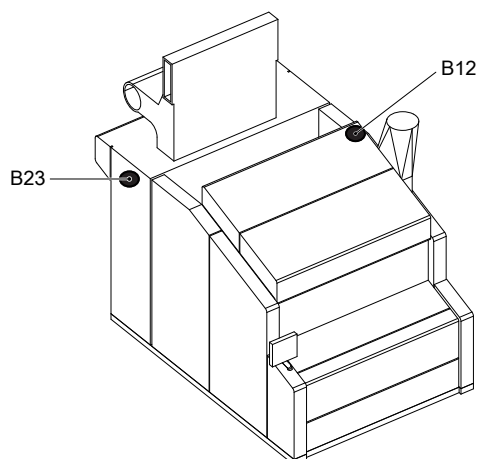


Figure 63: Locations of the pressure monitor sensor

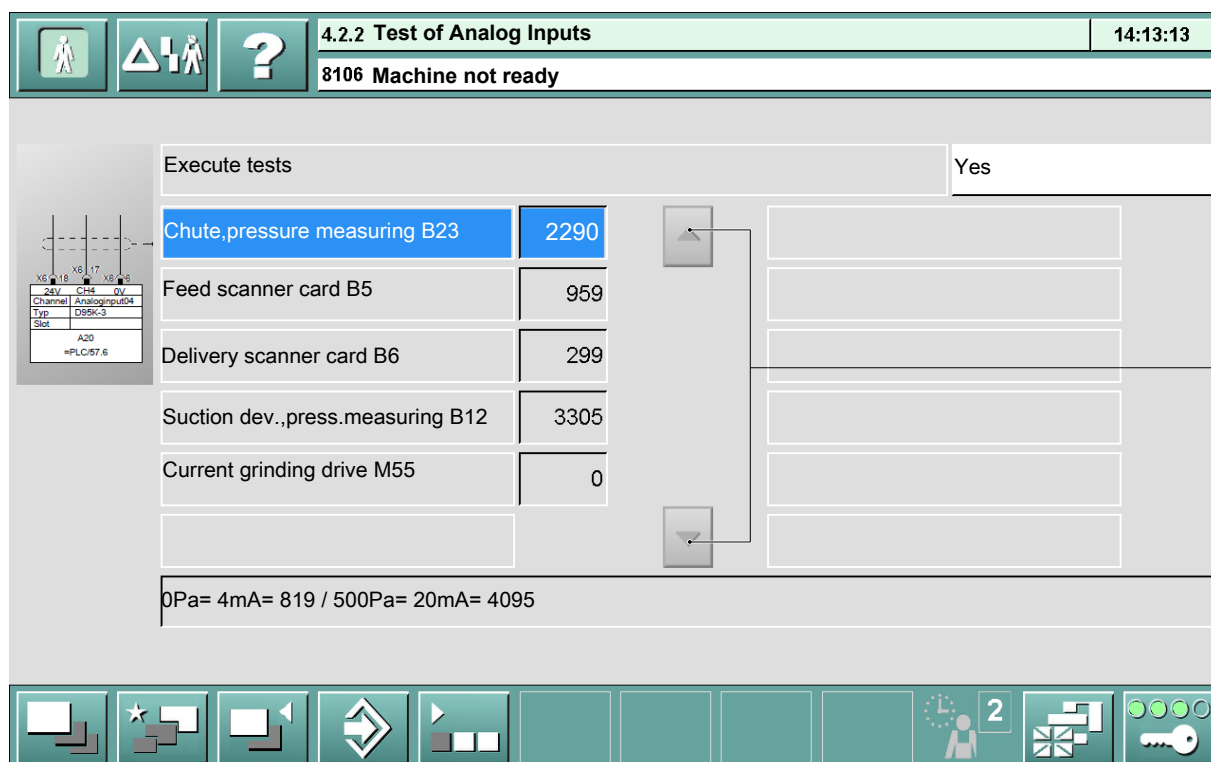


Figure 64: Data screen 4.2.2 Test analog inputs

Pressure	AD converter value	Value
0 Pa	4 mA	Approximately 819 +/- 20

1. Pull out the 2 the tubes **3** and **4** from the pressure sensor.

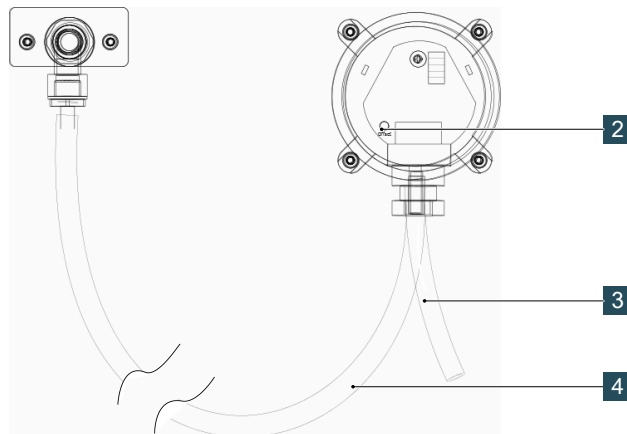


Figure 65: Pressure monitor sensor

2. Enter the password in level 3.
3. Select the operating mode as **Test mode** in data screen 4.1.5 **Operating mode change** .
4. Select the data screen 4.2.2 **Test of Analog Inputs** .
5. Tap the arrow key **1** to select the field **Chute,pressure measuring B23** .
6. Push and hold the button offset **2** of the pressure sensor more than 5 seconds.
7. Examine if the value in **Chute,pressure measuring B23** is 819 +/- 20.
⇒ The pressure monitor sensors B23 is calibrated to zero point
8. Connect the pressure tube **4** to the connection that identified with P1 + of the pressure monitor sensor.
9. Connect the pressure tube **3** to the front connection of the pressure sensor.
10. To calibrate the pressure monitor sensor B12, do the same steps from 1 to 9.

Result The pressure monitor sensors are calibrated to zero point.

6.4.1.1.3 Adjusting the Pressure Monitor Sensor

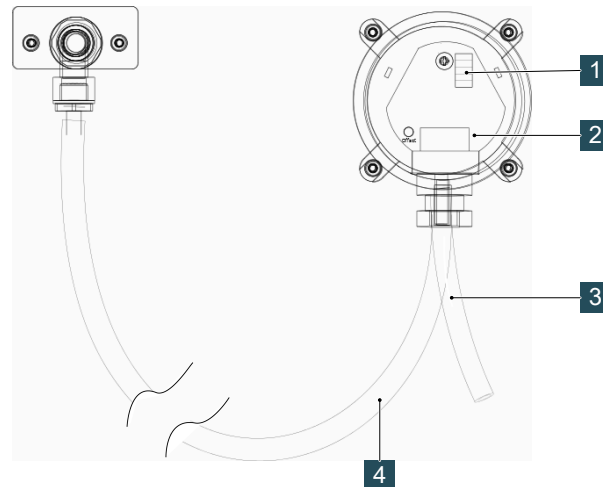


Figure 66: Pressure monitor sensor

1. Connect the pressure tube **4** to the connection that identified with P1 + of the pressure monitor sensor **1**.
2. Connect the pressure tube **3** to the front connection of the pressure sensor **1**.
3. Set the jumpers **2** as given in the electrical document.
4. To adjust the thickness **6** of the seal **9** to 6 mm, use the screws **7**.

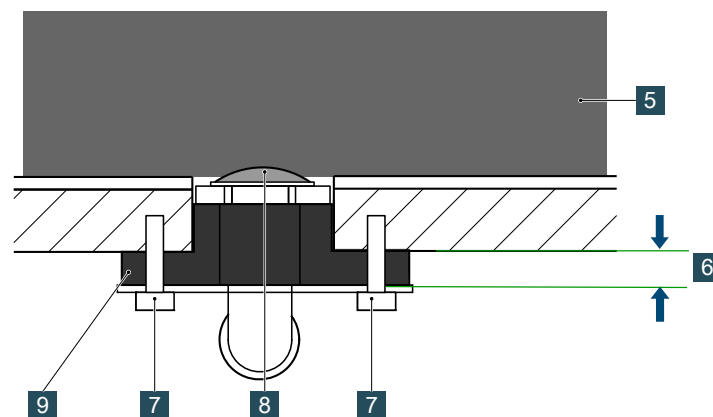


Figure 67: The position of intake filter

- ⇒ The intake filter **8** is correctly set in the material flow.
- ⇒ The batt **5** rubs the intake filter **8** that causes the self-cleaning effect.

Result The pressure monitor sensor is adjusted.

6.4.1.2 Licker-In

6.4.1.2.1 Adjusting the Proximity Switch for the Licker-In

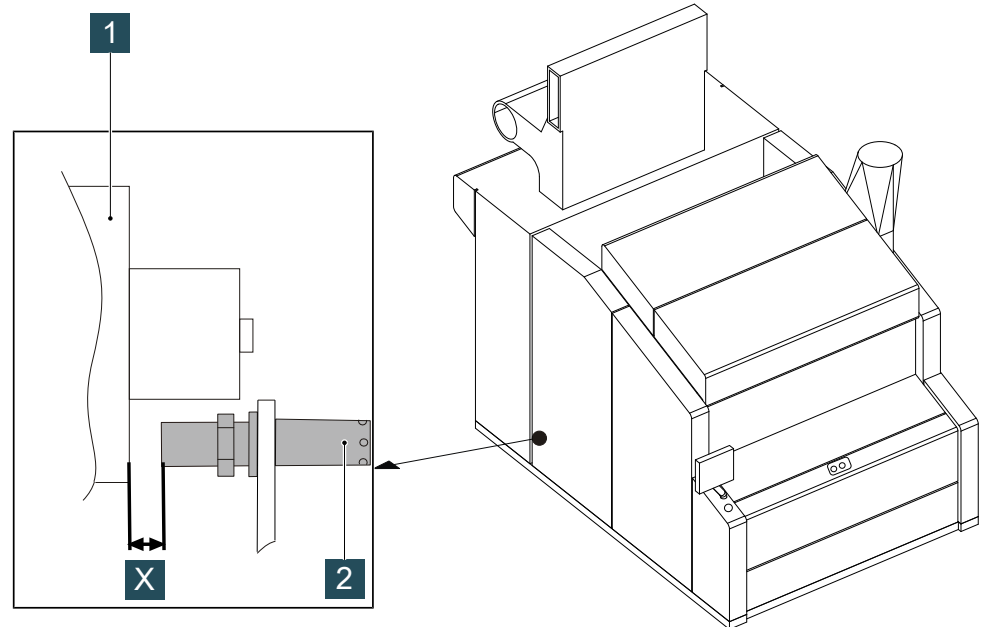


Figure 68: Proximity switch for the licker-in

1. Set the distance **X** between the proximity switch **2** and the pulse generator **1** to 1 mm.
2. Select the operating mode **Test mode** in the data screen 4.1.5 Operating mode change .
3. Open the data screen 4.2.5.4 Test of Licker-In .
4. Start the licker-in.
5. Read the values in the field **Prox. sw. PPV min.**
6. Compare the maximum value with the minimum value.
 - ⇒ If the difference between the maximum value and the minimum value is less than 5, then the adjustment is correct.
 - ⇒ If the difference between the maximum value and the minimum value is more than 5, replace the transducer disk.
 - ⇒ If the minimum value is low, decrease the distance **X**
 - ⇒ If the maximum value is high, increase the distance **X**

Result The proximity switch for the licker-in is adjusted.

6.4.1.2.2 Adjusting the Sensor of the Feed Plate at the Licker-In

Prerequisites Make sure that the criteria are obeyed:

- ✓ The load on the feed plate is set.

- ✓ The feed plate is set parallel to the feed roller.
- ✓ The staple length is set.

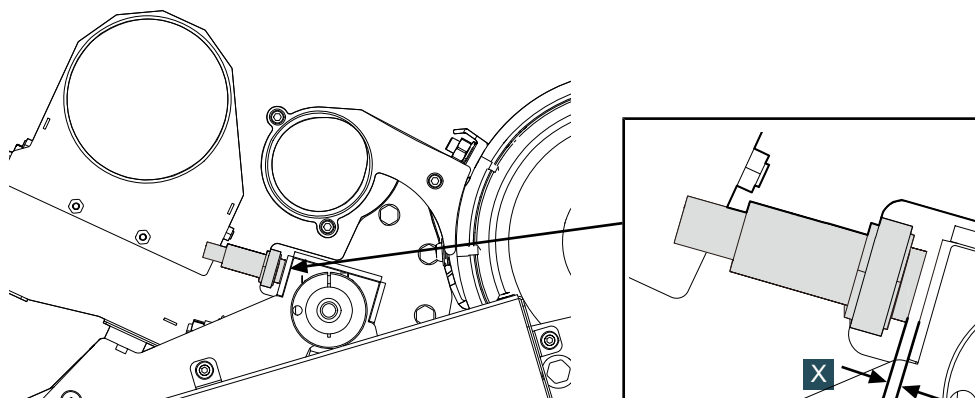


Figure 69: Sensor of the feed plate

1. Make sure that there is no material between the feed roller and the feed plate.
2. Set the distance **X** between the sensor and the licker-in board to 1mm.
3. Select the operating mode **Test mode** in the data screen 4.1.5 Operating mode change .

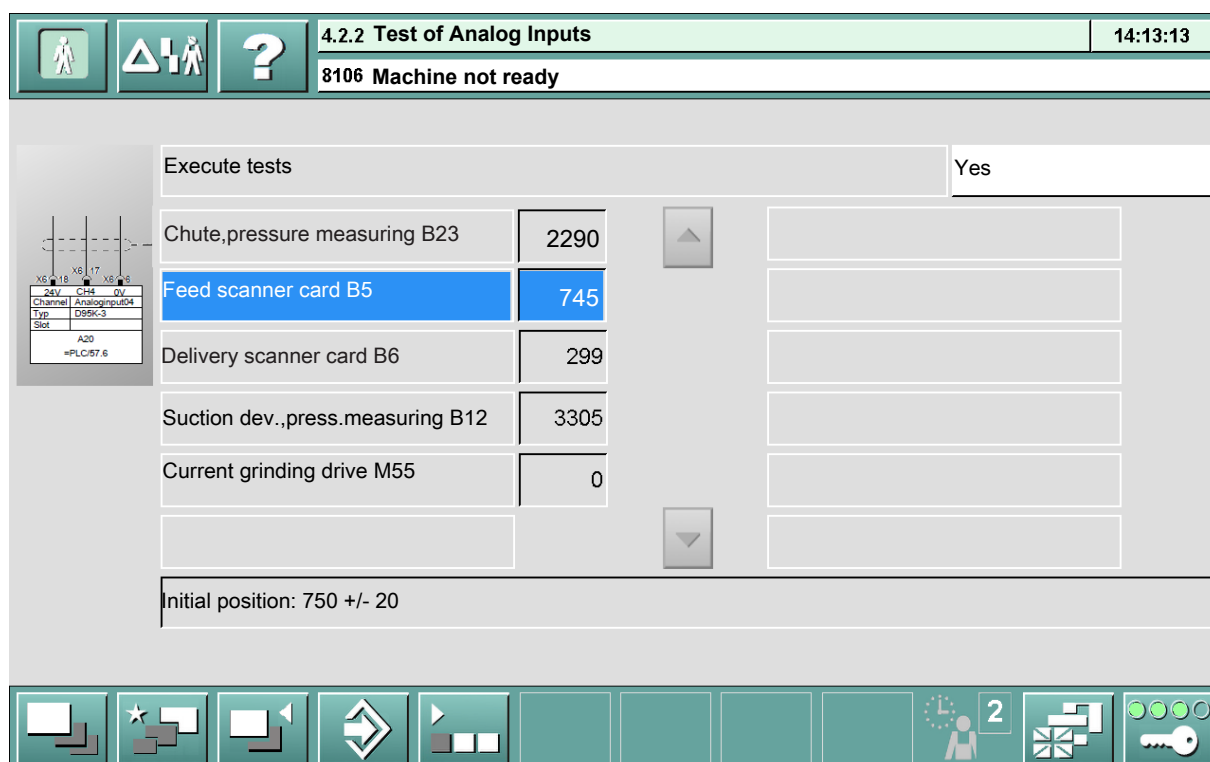


Figure 70: Data screen 4.2.2 Test analog inputs

4. Open the data screen 4.2.2 Test of Analog Inputs .
5. Read the values in the field **Feed scanner card B5**.

- ⇒ The target value is 750.
- ⇒ If the value is less than or equal to 730, increases the distance **X**.
- ⇒ If the value is more than or equal to 770, decreases the distance **X**.

Result The sensor of the feed plate at the lick-in is adjusted.

6.4.1.2.3 Adjusting the Sensor of the Mote Knife

Prerequisites Make sure that the criteria are obeyed:

- ✓ The cylinder is at a standstill.
1. Set the distance **X** between the sensor **2** and the mote knife to 1 mm.

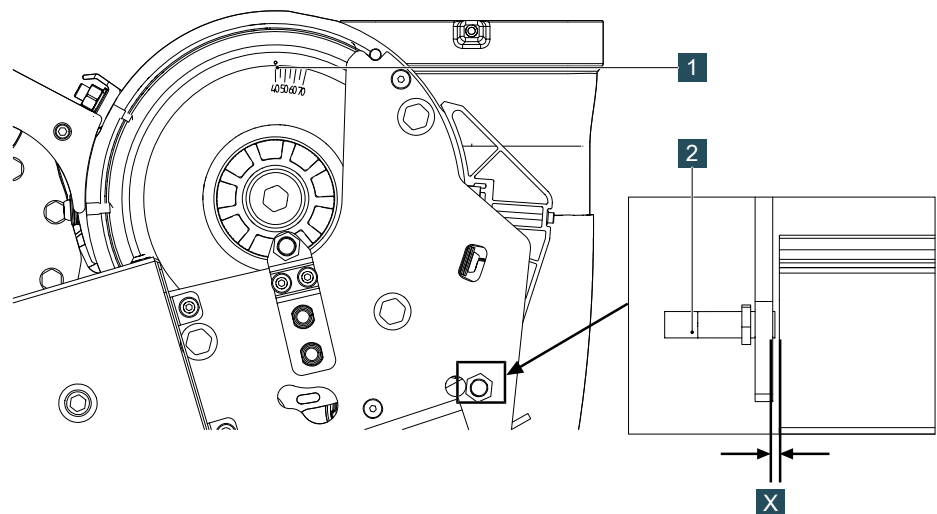


Figure 71: Sensor of the mote knife

2. Open the data screen 2.1.3 Nominal values Work elements.
3. Set the value to 70mm in the field Ejection dist. Licker-in.
4. Examine if the scale **1** shows 70.

Result The sensor of the mote knife is adjusted.

6.4.1.3 Cylinder

6.4.1.3.1 Adjusting the Proximity Switch for the Cylinder

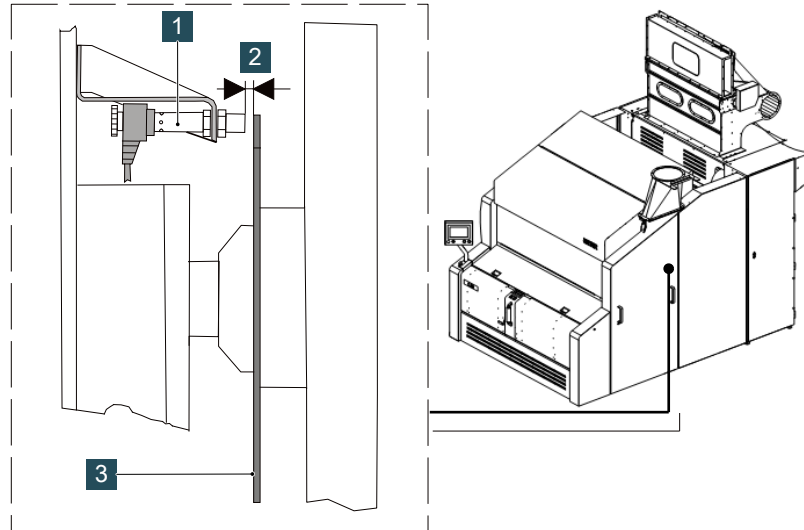


Figure 72: Proximity switch for the cylinder

Target range of Prox. sw. PPV min	55 – 65
--	---------

1. Set the distance **2** between the proximity switch **1** and the pulse generator **3** to 2 mm.
2. Select the operating mode **Test mode** in the data screen 4.1.5 **Operating mode switchover**.
3. Select the data screen 4.2.5.5 **Test cylinder**.

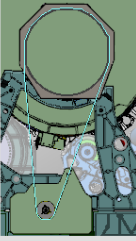
4.2.5.5 Test of Cylinder		14:14:37
8106 Machine not ready		
	Run drive tests	No
	Direction of rotation	Forwards
	Cylinder set rpm	450 rpm
	Cylinder actual rpm	0 rpm
	Prox. sw. PPV min / max	0 0 %
	Freq. conv., target value	0.0 Hz
	Motor current, actual value	0.0 A

Figure 73: Data screen 4.2.5.5 Test cylinder

4. Start the cylinder.
5. Read the value in the field **Prox. sw. PPV min**.
6. Compare the difference between the maximum value and the minimum value.
 - ⇒ If the difference is less than 5, the values are adjusted correctly.
 - ⇒ If the difference is more than 5, replace the pulse generator.
7. If the minimum value is low, decrease the distance **2**.
8. If the maximum value is high, increase the distance **2**.

Result The proximity switch for the cylinder is adjusted.

6.4.1.4 Card Flats

6.4.1.4.1 Adjusting the Proximity Switches for the Card Flats

1. Select the operating mode **Test mode** in the data screen 4.1.5 **Operating mode change** .
 - ⇒ The test functions in the menus 4.2 are possible to be done.
2. Select the data screen 4.2.5.6 **Test, flats drive**.

4.2.5.6 Test of Flat Drive		9:25:54
8106 Machine not ready		
Run drive tests	No	
Direction of rotation	Forwards	
Target speed for flats	0.28	m/min
Flats speed act. value	0.00	m/min
Torque	27.0	Nm
Freq. conv., target value	0.0	Hz
Motor current, actual value	0.0	A
Alignment of flats B8	0.0	mm
Monitoring flats speed B2	0	
Monitoring flats position B8	0	

Figure 74: Data screen 4.2.5.6 test, flats drive

3. To start the test, select the option **Yes** in the field **Run drive tests**.
4. Set the minimum speed to 0.1 m/min in the field **Target speed for flats**.
5. Push the start button.
 - ⇒ The card flat drive is started.
6. Push the stop button.
 - ⇒ The card flat drive is stopped.
7. Move the card flats until the flats **3** are accurately below the proximity switches **1** and **2**.

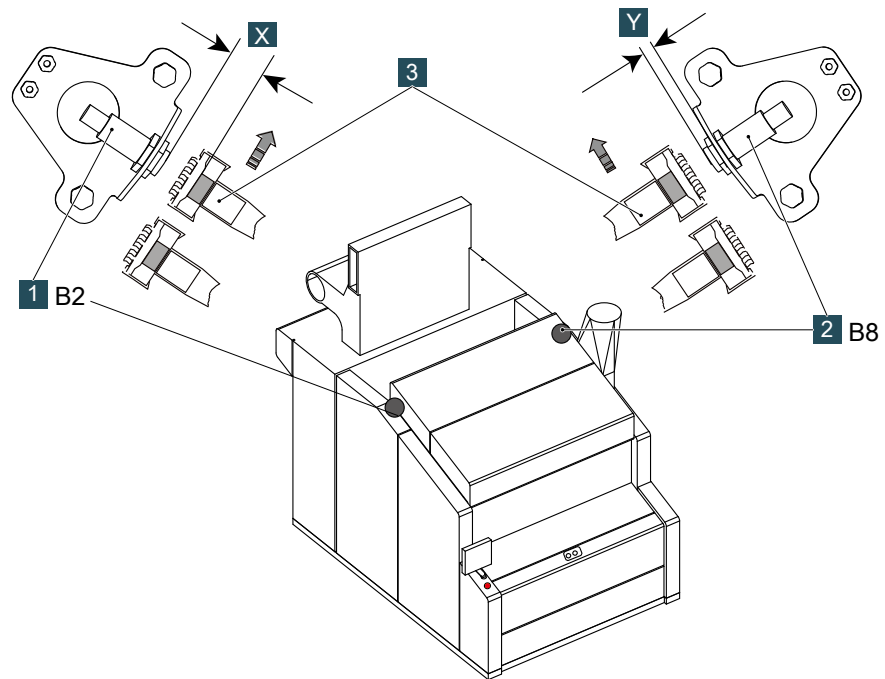


Figure 75: Proximity switch for the card flats

8. Make sure that the preset distance **Y** is 10 mm
9. At 2 sides of the machine, set the distance **X** to 5 mm.

Doing a Check of the Distance between the Proximity Switch and the Flat

1. Start the card flat drive.
2. Read the status in the field **Monitoring flats speed B2** and **Monitoring flats position B8** in the data screen 4.2.5.6 **Test, flats drive**.
 - ⇒ For each card flat that goes through the proximity switch, the status changes from 0 to 1. This behavior shows that the switching distance **X** is correct.
3. If the status is always 0, decrease the distance **X**.
4. If the status is always 1, increase the distance **X**.
 - ⇒ The distance is examined.

Examining the Parallel Run

1. Start the card flat drive.
2. Make sure that the card flats are aligned (*refer to ► 857*).
3. Read the value in the field **Alignment of flats, B8** in the data screen 4.2.5.6 **Test, flats drive**.
 - ⇒ If the value is in the range from +1 mm to -1 mm, the card flats are aligned.

4. If the value is more than +1 mm, move the proximity switch **2** near to the delivery unit.
5. If the value is less than -1 mm, move the proximity switch **2** near to the card chute.
 ⇒ The parallel run is examined.

Examining the Setting for the IGS-top

A thin metal plate is installed on the card flat clip on the right side of the machine with this machine model (registration of the first card flat).

1. Make sure that the LEDs stay on when the LEDs go near the metal plate.
 ⇒ The setting for the IGS-top is examined.

Result The proximity switches for the card flats are adjusted.

6.4.1.5 Delivery Unit

6.4.1.5.1 Adjusting the Proximity Switch for the Doffer Speed

The machine stops if the doffer speed decreases below a specified level. The operator must obey the text on the display.

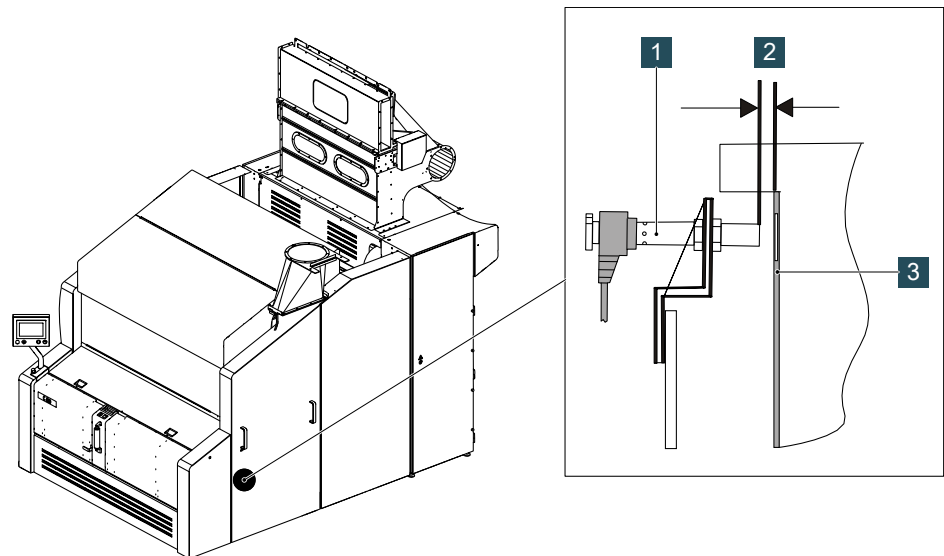


Figure 76: Proximity switch of doffer

1. Open the folding door at right side of the machine.
2. Set the distance **2** between the proximity switch **1** and the impulse disk **3** to 1 – 1.2 mm.
 ⇒ The position of the proximity switch is set.
3. Close the folding door.

Examining the Setting

1. Select the operating mode **Test mode** in the data screen 4.1.5 **Operating mode change** .
2. Select the data screen 4.2.6.3 **Test of Doffer in Card** .

4.2.6.3 Test of Doffer in Card		9:26:57
8106 Machine not ready		
Run drive tests	No	
Motor set rpm	500	rpm
Doffer actual rpm	0.00	U/min
Prox. sw. PPV min / max	0	0 %
Freq. conv., target value	0.00	Hz
Motor current, actual value	0.0	A

Figure 77: Data screen 4.2.6.3 test doffer card

3. Push the start button to start the doffer.
4. Read the value in the field **Prox. sw. PPV min / max** .
5. Compare the maximum value with the minimum value.
 - ⇒ If the difference between the maximum value and the minimum value is less than 5, the values are set correctly.
6. If the difference between the maximum value and the minimum value is more than 5, do the procedure that follows.
7. Adjust the distance **2** between the proximity switch **1** and the impulse disk **3**.
8. Examine the proximity switch **1**.
9. Replace the impulse disk **3** if necessary.

Result The proximity switch for the doffer speed is adjusted.

6.4.1.5.2 Adjusting the Proximity Switch for the Disk Rollers

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- 1. Remove the delivery unit hood at the right side of the machine.

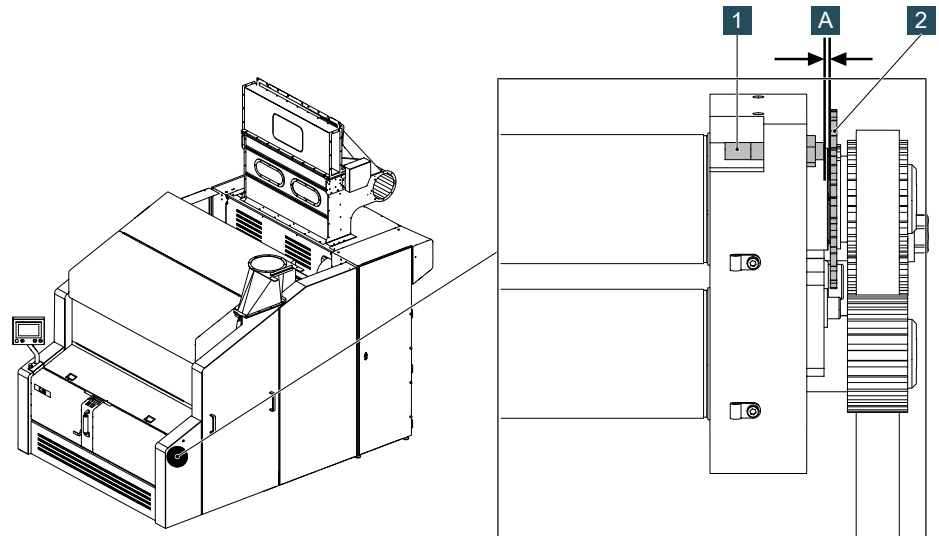


Figure 78: Proximity switch for disk roller

- 2. Remove the hood of the disk roller unit at the right side of the machine.
 - 3. Set the distance between the proximity switch **1** and the impulse disk **2** is 0.8 mm.
- ⇒ The proximity switch is set at the right position.

Examining the Setting

- 1. Set the machine in test mode in the data screen 4.1.5 **Operating mode change** .
- 2. Enter the data screen 4.2.6.4 **Test of Delivery Unit** .

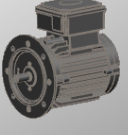
4.2.6.4 Test of Delivery Unit		14:15:49
8106 Machine not ready		
	Run drive tests	No
	Delivery set speed	150 m/min
	Delivery actual speed	0 m/min
	Prox. sw. PPV min / max	0 0 %
	Freq. conv., target value	0.0 Hz
	Motor current, actual value	0.0 A

Figure 79: Data screen 4.2.6.4 test delivery card

3. Push the start button to start the doffer.
4. Read the value in the field **Prox. sw. PPV min / max**.
5. Compare the maximum value with the minimum value.
 - ⇒ The value range is from 50 to 70.
 - ⇒ If the difference between the maximum value and the minimum value is less than 10, the values are set correctly.
6. If the difference between the maximum value and the minimum value is more than 10, replace the impulse disk **2**.
7. If the minimum value is low, decrease the distance **A**.
8. If the maximum value is high, increase the distance **A**.

Result The proximity switch for the disk roller speed is adjusted

6.4.1.6 Adjusting the Vacuum Monitoring

The drawing that followed show the location of the pressure monitoring sensor B12.

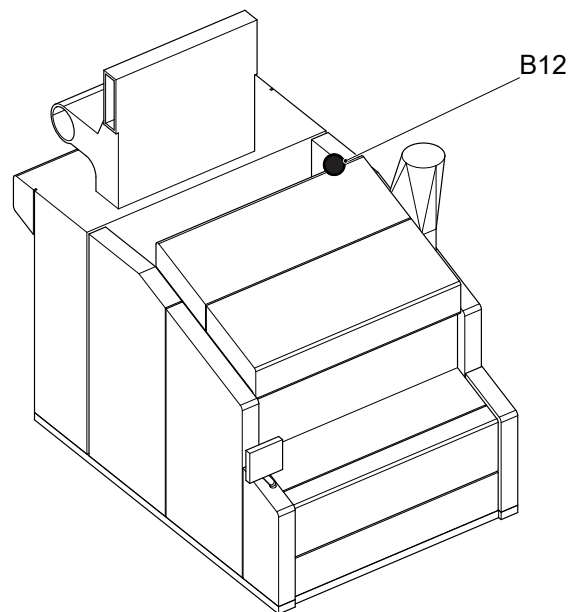


Figure 80: Location of the pressure monitor sensor B12

1. The pressure monitoring sensor is calibrated. See *Calibrating the Pressure Monitor Sensor* ▶ 89
2. Enter the password for level 3.
3. Select data screen 2.3.1.2 **Feed Unit & Cylinder Settings** .
4. Set the switch point in the line **Shut-off thres. f. suc.pres.** to - 600 Pa.
⇒ The switch point is set.

Result The vacuum monitoring is adjusted.

6.4.2 Examining the Safety Circuit

See *Doing the Function Test of the Safety Relay* ▶ 777.

6.4.3 Adjusting the Door Locking Mechanism and the Safety Switch

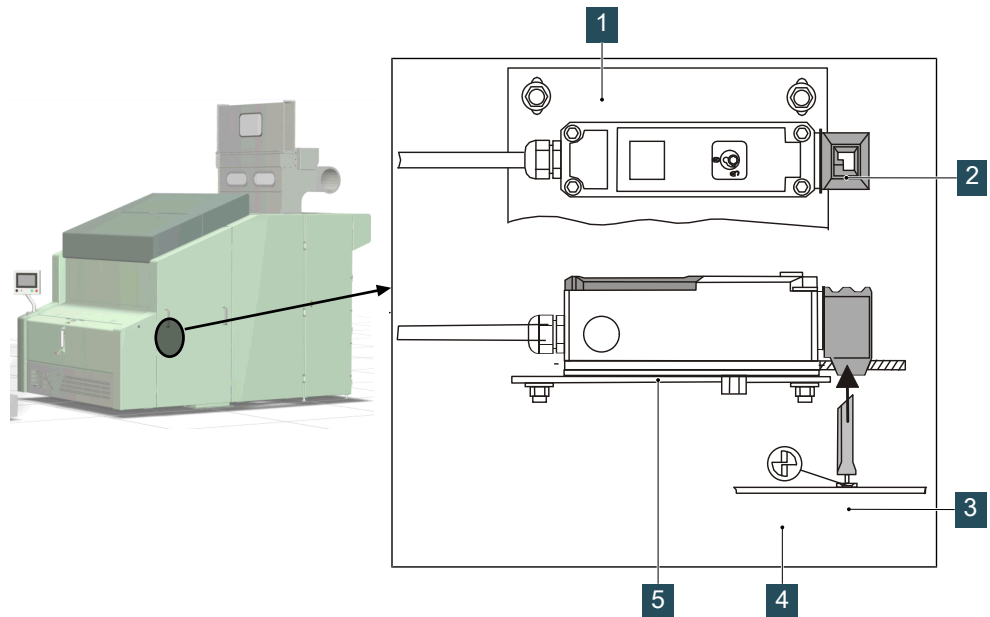


Figure 81: Doors lock mechanism of the card machine

1. Attach the switching cam **3** with the captive screws **4**.
2. Attach the switching cam **3** into the opening **2** of the safety switch **5**.
⇒ The small movement of the switching cam **3** is possible.
3. Adjust the installed switching cam **3** with the fastening plate **1**.

Doing the Function Test for the Safety Switch Electrically

Prerequisites Make sure that the criteria are obeyed:

- ✓ Password level 3 is selected.
 - ✓ In the data screen 4.1.5 **Operating mode change** , the operating mode **Test mode** is selected.
1. Select the data screen 4.2.4 **Test of Door Saf. Devices & watchdog** .

4.2.4 Test of Door Saf. Devices & watchdog		14:13:37
8106 Machine not ready		
Execute tests	No	Unlock door S18
Door safeguard card S18	1	
Door monitoring relay card K22	0	
Monitoring watchdog relay K20	1	

Figure 82: Data screen 4.2.4 test, door safety devices and watchdog

2. Switch on the function test in the field **Execute tests**.
⇒ Test function test is switched on.
3. Read the status in the field **Door safeguard card S18**.
4. Close a door.
5. If the value in the field **Door safeguard card S18** is 1.
⇒ The output signal of the limit switch is in sequence.
6. If the value in the field **Door safeguard card S18** is 0, adjust the limit switch.
7. If the value in the field **Door safeguard card S18** is 0, adjust the switching cam **3** until the switch point is more than the limit.
8. Open a door.
9. If the value in the field **Door safeguard card S18** is 0.
⇒ The output signal of the limit switch is in sequence.
10. If the value in the field **Door safeguard card S18** is 1, adjust a limit switch.
11. If the value in the field **Door safeguard card S18** is 1, adjust the switching cam **3** until the switch point is more than the limit.
⇒ The safety switch function test is done electrically.

Doing the Function Test for the Door Lock Mechanism

1. Push the start button.

- ⇒ The status of the line **Unlock door S18** changes to 1.
- ⇒ The door is opened.
- 2. Push the stop button.
 - ⇒ The status of the line **Unlock door S18** changes to 0.
 - ⇒ The door is locked again.
- 3. Do the function test of the safety relay. See *Doing the Function Test of the Safety Relay* ▶ 777
 - ⇒ The function test is done for the door lock mechanism.

Result The door lock mechanism and the safety switch are adjusted.

6.5 Doing the Commissioning with Material

Prerequisites Make sure that the criteria are obeyed:

- ✓ The blowroom is ready for operation.
- ✓ The chute is filled with material.
- 1. Check the speed of the opening roller, if necessary adjust the speed of the opening roller. See *Adjusting the Opening Roller Speed* ▶ 292
- 2. Set the machine into operation. See *Starting the Machine* ▶ 260
- 3. To remedy the error during the commissioning procedure. See *Troubleshooting*
- 4. Set the cylinder speed and licker-in speed in data screen 2.1.3.
- 5. Set the sliver weight and production (about 60kg/h) in data screen 2.1.1. See *Data Screen 2.1.1 Production Setpoints* ▶ 175
- 6. Adjust the speed of the opening roller mechanically. The speed of the fan is set automatically, depending on the batt weight.
- 7. Enter the lifetime of the clothing for IGS in data screen 2.3.1.3. See *Doing the Configuration of the IGS* ▶ 273
- 8. Set the card into normal production with 60kg/h in data screen 2.1.1.
- 9. Adjust the draft between card and coiler in data screen 2.3.2.1. See *Adjusting the Draft between the Card and Coiler* ▶ 337
- 10. Operate the card at normal production at least 15 minutes, better longer.
- 11. Check filling level of feed in channel.
 - ⇒ Filling level must be plain over the width of the card.
- 12. If necessary, adjust air injection of chute. See *Adjusting the Airflow at the Card Chute* ▶ 286
- 13. No holes of material are allowed. If necessary adjust “filling level” in data picture 2.3.1.4. See *Adjusting the Batt Weight* ▶ 288

⇒ Bottom window of channel must be nearly covered with material. If filling level is too high, there is danger of chokes in chute and compaction channel. If filling level is too low, there is danger of holes in the fleece and bad running behavior of delivery section.

14. Sort the sliver (check the sliver weight), enter the value in data screen 2.1.2. See *Data Screen 2.1.2 Sort Sliver* ▶ 176
15. Again operate the card at least 15 minutes in normal production.
16. Push the production start button to change the machine to slow speed.
17. In data screen 2.3.1.1 do the adjustment of weight. See *Adjusting the Sliver Weight in the Slow Speed* ▶ 337
18. Set the speed for can change in data screen 2.3.2.1. See *Doing the Configuration of the Sliver Coiling Device* ▶ 275
19. Set the length of sliver length by entering the average fiber length in 2.3.2.1
20. Set the **Monitoring of cylinder speed** in data screen 2.3.1.2. See *Doing the Configuration of the Feed Unit and the Cylinder* ▶ 271
21. During the commissioning process, the first priority is to keep the production process going.
22. Improve the running behavior of the machine through step-by-step optimization of the quality.

Result The commissioning with material is done.

7 Operation

This chapter contains the information about:

- The operating personnel
- The name and the location of the display elements and the operating elements
- The operating units
- How to adjust the machine without material and with material
- How to start the machine and the operation procedure
- The operation of the machine during the operation procedure
- How to stop the machine and the operation procedure

7.1 Operating Personnel

Only Rieter approved personnel are permitted to operate the machine.

7.2 General Information

This section contains the general information about the manual.

Operating Personnel

Only approved personnel are permitted to operate the machine.

Purpose

This chapter contains the information about how to:

- Use the operating elements.
- Monitor the machine during the production.
- Prevent faults through the maintenance that is done by the operator.
- Correct faults in the material flow.
- Operate all data screens.
- Set the different machine components.

Safety Instructions

Before the operation, make sure that:

- The machine is prepared for the operation.
- The machine is adapted to the material.
- All doors and all covers are closed.
- The emergency stop button is unlocked.
- The main switch is set to the position ON.
- The message **Ready to start** is shown on the screen.

7.3 Display Elements

This section contains the information about the display elements of the card.

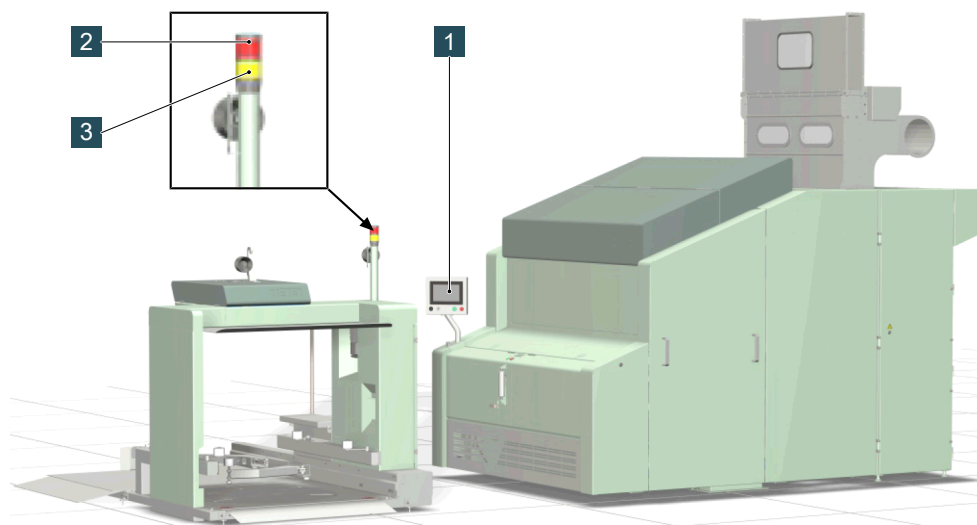


Figure 83: Display elements

- | | |
|---|---|
| 1 Display of the operating unit | 2 Signal lamp for the machine status |
| 3 Signal lamp for the can change | |

7.3.1 Signal Lamp

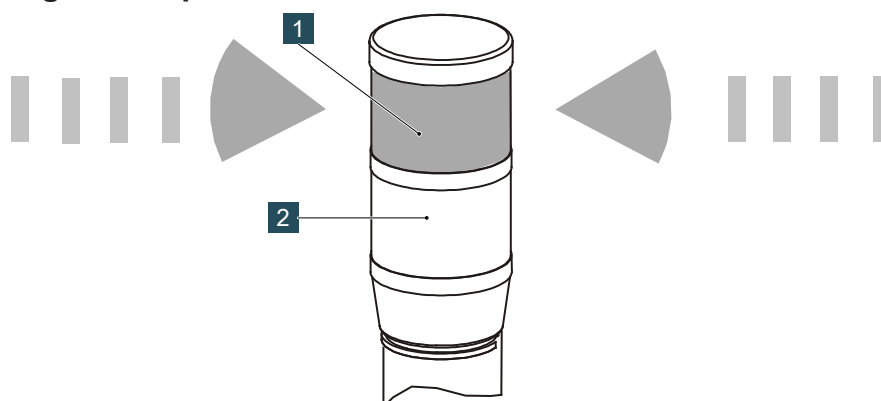


Figure 84: Signal lamp

- | | |
|---|---|
| 1 Signal lamp for the machine status | 2 Signal lamp for the can change |
|---|---|

7.4 Operating Elements of the Card

The figure that follows shows the operating elements of the machine.

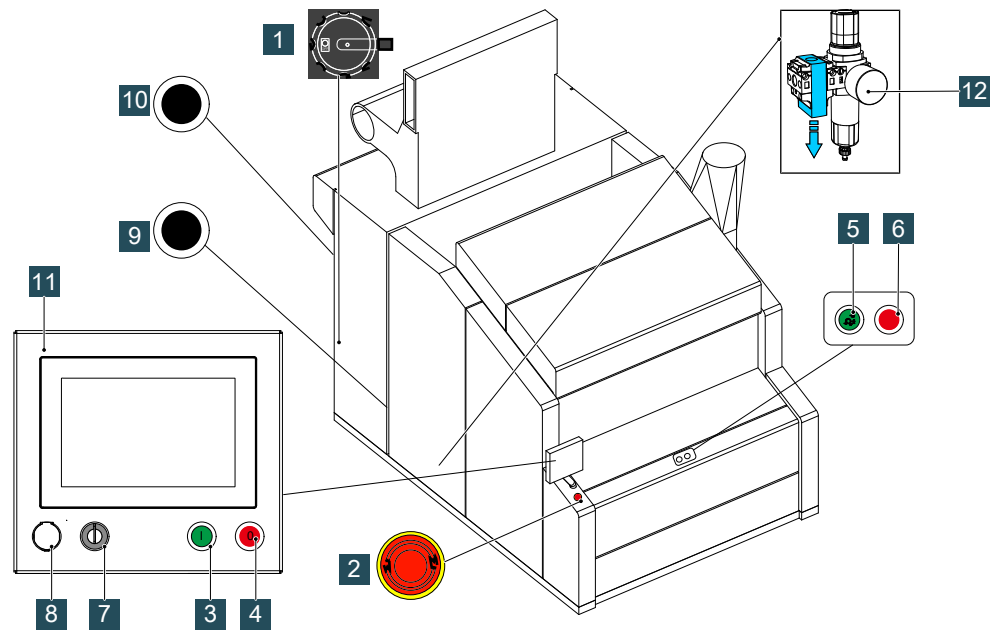


Figure 85: Operating elements

1 Main switch	2 Emergency stop button
3 Machine start button	4 Machine stop button
5 Production start button	6 Production stop button
7 Key switch	8 USB interface
9 Feed roller card backward button	10 Feed roller chute backward button
11 Display screen	12 Pneumatic main valve

Main Switch

The main switch has position 0/OFF and position I/ON. The main switch is set to the position 0/OFF to disconnect the power supply from the machine or set to the position I/ON to connect the power supply to the machine.

The main switch is not an emergency stop button. Thus, before set the main switch to position OFF, make sure that the machine is at a standstill.

The operator must set the main switch to position 0/OFF and padlock it before maintenance works and repair works.

Emergency Stop Button

The emergency stop button is only used if there is an emergency. When the operator pushes the emergency stop button, the results that follow occur:

- The machine stops as soon as possible.
- All connected peripheral machines of the machine stop immediately.

The emergency stop button is possible to be released by turning the button.

Machine Start Button

When the operator pushed the machine start button:

- The cylinder and flats start.
- When the cylinder speed increase to 100 - 200 rpm, the licker-in starts.

Machine Stop Button

When the operator pushed the machine stop button:

- The feed rollers are stopped immediately.
- The doffer is stopped slowly after the card sliver breaks.
- The cylinder and the licker-in are stopped.

Production Start Button

When the operator pushes the production start button:

- The feed channel starts to be filled if it is empty before.
- The production starts at slow speed.
- After the card sliver is put in the coiler, if the operator pushed the production start button again, the production is started at high speed.

Production Stop Button

When the operator pushes the button 1 time:

- The feed rollers are stopped.
- The doffer is stopped after the card sliver breaks.

When the operator pushes the button for a second time:

- The doffer is stopped as soon as possible.

Key Switch

The key switch is turned on or turned off by a key.

In normal operation, turn the key to the left side. Keep the key by the approved personnel.

If turn the key to the right side, the safety switch of the right side folding door is bypassed.

The user needs to turn on the key switch when doing the procedure as follows:

- Grinding or leveling procedure for card flats
- Adjusting the IGS-top
- Measuring the carding gap

USB Interface

The USB interface is used to connect the USB disk for exporting/importing data and updating the software.

Feed Roller at Card Backward Button

When the operator pushed the feed roller backward button at card:

- The feed roller of the licker-in unit turns backward.
- The supplied batt is pushed back out of the card.

The user can push the feed roller backward button at the card to remove the foreign objects or blockage.

Feed Roller at Chute Backward Button

Before pushing the feed roller at chute backward button, make sure that the production is stopped.

When the operator pushed the feed roller at chute backward button:

- The feed roller of the chute turns backward.
- The supplied material is pushed back out of the feed roller.
- After the card cylinder is stopped, for the safety reason, the machine will not start when someone else pushes the start button by accident.

Pneumatic Main Valve

Before starting the machine for production make sure that the pneumatic main valve is set to ON.

7.5 Machine Operating Unit

The machine operating unit gives an overview and an explanation of the primary touch keys at the operating unit.

The data screen **0.2.1 Overview** comes into view 1 minute after the main switch was set to the position ON.

Tap the display of the operating unit only with a finger or a touch screen pen.

7.5.1 Structure of the User Interface

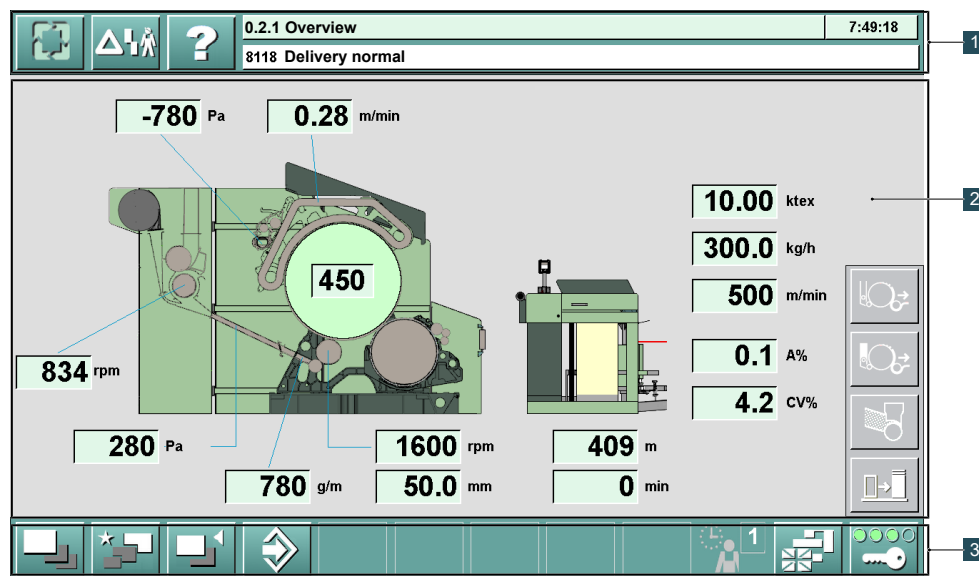


Figure 86: User interface

- | | |
|---------------------|----------------------|
| 1 Status bar | 2 Dialog area |
| 3 Menu bar | |

Status bar The status bar is at the top of the data screen.

Dialog Area The dialog area of each data screen contains information, figures, and touch keys. Alphanumeric data can be entered in input fields. Touch keys can be used to go into other data screens.

Menu bar The menu bar is at the bottom of the data screen. Different data screens contain different touch keys.

7.5.1.1 Status Bar Elements

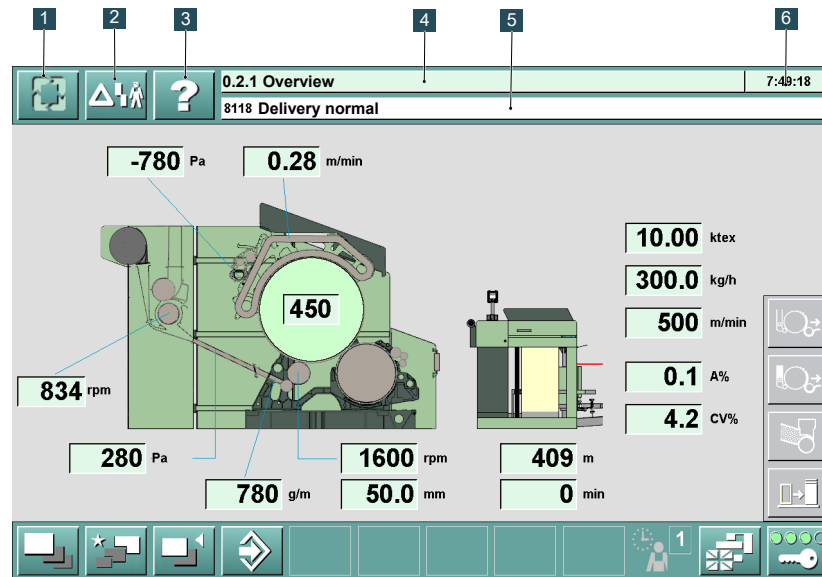


Figure 87: Status bar elements

1	Operating mode	2	Warning/ alarm/ service
3	Help	4	Data screen name
5	Machine status information	6	Time

Operating mode

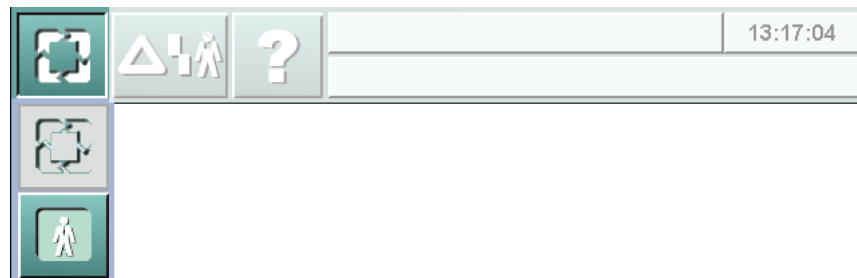


Figure 88: Operating mode

Icon	Description
	The machine is in the automatic mode. Production is possible.
	The machine is in operation.
	The production is in creep speed.
	The cylinder is stopped.

Icon	Description
	The machine is in the service mode. Production is not possible. Only test functions and maintenance functions are possible to be done. Service mode is only possible to be started with the maintenance authorization.

Warning/ alarm/
service



Figure 89: Warning/ alarm/ service

The touch key opens the data screen 1.4.1 **Alarms/Warnings** .

Icon	Description
	No warning messages, alarm messages, or service messages occur.
	A warning message is shown.
	An error message is shown.
	A maintenance warning is shown.

Help

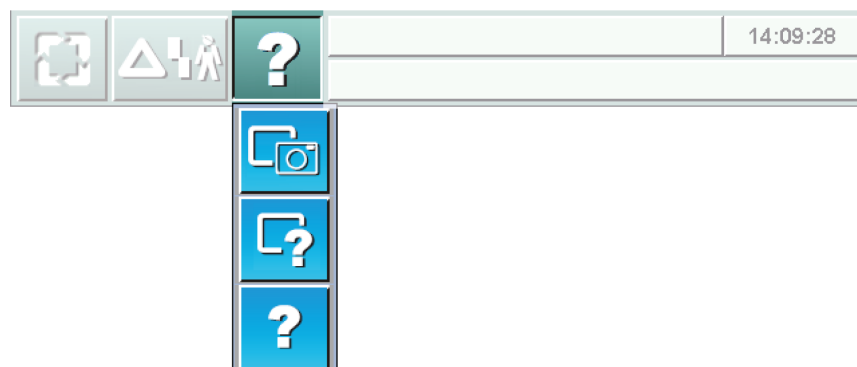


Figure 90: Help

Icon	Description
	A screenshot is made.
	The contents of the operation instructions for the showed data screen is shown.
	The operation instructions are shown. The operation instructions are stopped when the touch key Main Menu is tapped.

7.5.1.2 Menu Bar Elements

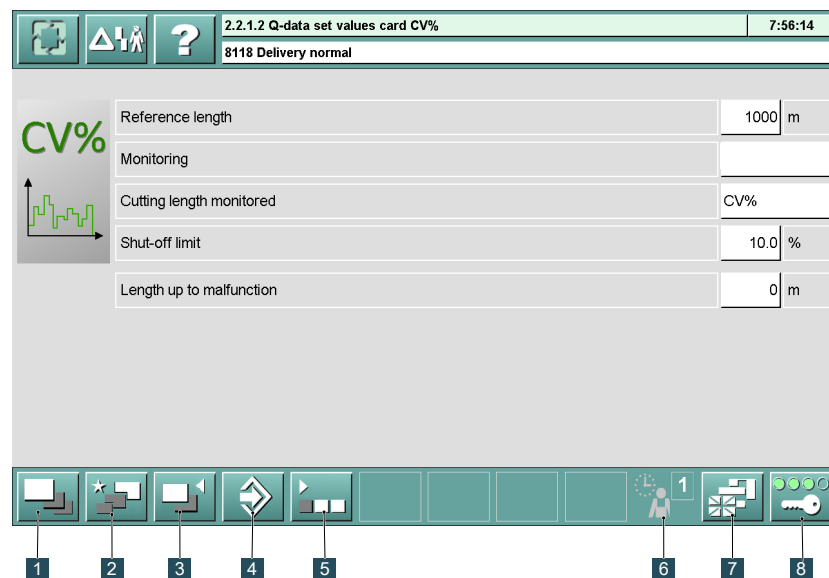


Figure 91: Menu bar elements

1 Overview	2 Favorites
3 Previous data screen	4 Main menu
5 Next data screen	6 Shift
7 Language	8 Access

Overview



Figure 92: Touch key Overview

When the user taps the touch key **Overview**, the data screen **0.2.1 Overview** opens. If a fault occurs, the fault screen opens first.

Favorites

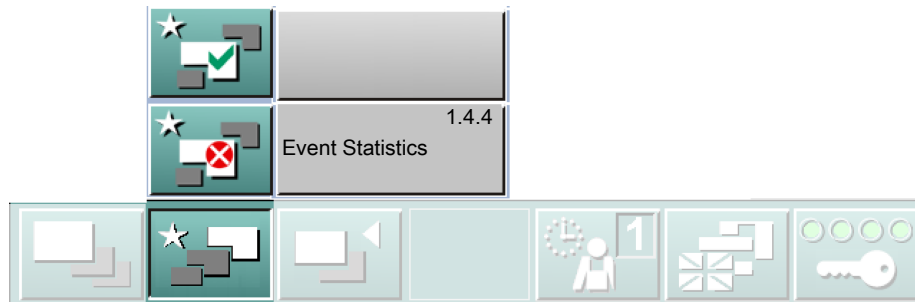


Figure 93: Touch Key Favorites

The user is permitted to add a maximum of 10 favorites.

Icon	Description
	The favorites list opens. When the user taps the touch key again, the favorites list closes.
	The user can keep the data screen at the selected position.
	The user can remove a data screen from the favorites list.
	The current shown data screen is made as a favorite at this position.
	The user can directly go to the data screen of which the name is shown on this touch key.

Previous Data Screen



Figure 94: Touch key Previous data screen

When the user taps the touch key **Previous data screen**, the previously opened data screen is shown.

Main Menu



Figure 95: Touch key Main menu

When the user taps the touch key **Main menu**, the main menu opens. The main menu shows the last navigation screen.

Shift



Figure 96: Touch key Shift

The shift can be changed with this key if the **Shift key** in the data screen 3.2.1 **Shift General** has been selected before the shift change.

Then the user can tap the touch key **Shift** to select the shift number.

More Information This key is only needed when there is no shift schedule or no SPIDERweb. If the machine has the SPIDERweb, the shift schedule will be controlled by the SPIDERweb.

Language



Figure 97: Touch key Languages

A maximum of 5 languages are possible to be selected with the touch key **Languages**. A total of 5 languages that are selectable on the touch key are specified in the data screen 3.1.3 **Languages**.

User Login

For more information, see Access Concept.

User Logout



Figure 98: Touch key User logout

By tapping the touch key **User logout**, the user is logged out. The current access right is reset. None of the 4 LEDs are green on the touch key **User login**.

User Administration



Figure 99: Touch key User administration

The touch key **User administration** is shown when the user logs in with Administrator authorization. When the user taps the touch key **User administration**, the data screen **0.4 User Administration** opens.

Next Data Screen



Figure 100: Touch key Next data screen

Condition	Function
There is another data screen on the same level.	The user can go into another data screen on the same level with the touch key Next data screen .

Copy



Figure 101: Touch key Copy

Condition	Function
There is a data screen with permitted copy function.	The user can record the data content in the buffer with the touch key Copy .

Accept

Figure 102: Touch key Accept

Condition	Function
There is an identified value to apply in the data area.	The user can move the content of the buffer to the identified data area with the touch key Accept .

Cancel

Figure 103: Touch key Cancel

When the user taps the touch key **Cancel**, the entries are not accepted.

Filter for Data Screen**Filter for Data Screens
1.4.1**

Figure 104: Touch key Filter for data screen 1.4.1

**Filter for Data Screens
1.4.2 and 1.4.5**

Figure 105: Touch key Filter for data screen 1.4.2 and data screen 1.4.5

**Filter for Data Screens
1.4.4**

Figure 106: Touch key Filter for data screen 1.4.4

This touch key only shows in the data screen under the menu 1.4. When the user taps the touch key, the filter settings that follow can be selected:

Icon	Meaning
	No filter, show all.

Icon	Meaning
	
	
	Only show alarms messages.
	Only show warning messages.
	Only show maintenance warning messages.
	Only show info messages.
	Only show history of value changes that related to clothing life time.
	Only show software fault message messages.

7.5.1.3 Operating Keys at the Operating Unit

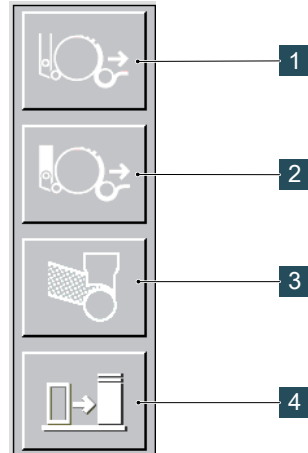


Figure 107: Operating keys at the operating unit

- | | |
|---|--|
| 1 Key for emptying the line | 2 Key for emptying the feed-in channel and the card |
| 3 Key for stopping the feed roller of the card | 4 Can change key |

7.5.2 Direct-Access Touch Keys

The user can go into a data screen by 1 of the 2 methods as follows:

- Tap the touch keys **1 2 3 4** on the left side to go into their subordinate data screens step by step.
- Tap the direct-access touch keys **5** to go into a data screen 2.1.2 directly.

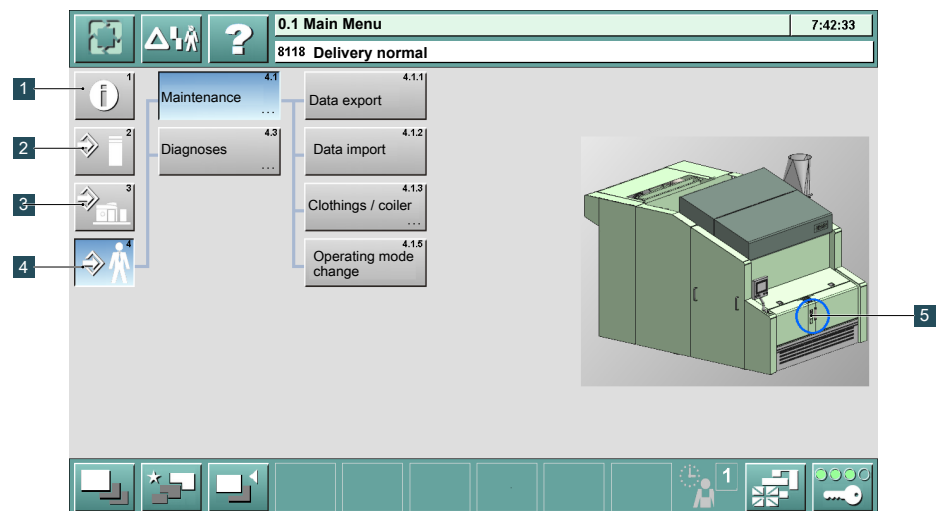


Figure 108: Methods for entering data screens

- | | |
|-------------------------------|------------------------------------|
| 1 Menu 1 “Information” | 2 Menu 2 “Product settings” |
|-------------------------------|------------------------------------|

- | | | | |
|---|--|---|------------------|
| 3 | Menu 3 "Machine configuration" | 4 | Menu 4 "Service" |
| 5 | Direct-access touch keys for data screen 2.1.2 | | |

7.5.3 Access Concept



Figure 109: Touch key User login

The touch key **User login** has the functions that follow:

- The access rights of the logged in user are shown by tapping this touch key.
- The data screen **0.3 Access** is opened by tapping this touch key.

The access rights that follow are shown by green LEDs:

- Settings
- Maintenance
- Administration

The administrator has all the authorizations above.

Display of Access Rights

Authorization	Access Rights	Description	Display Icon
Level 0	No authorization	The user are not permitted to change the setting in the data screens. Not all data screens and functions are available, which are not prevented by a password.	
Level 1	Settings	The user can change values in the automatic mode. No extended operation is permitted.	
Level 3	Maintenance	The user can do all settings and functions for maintenance.	
Level 4	Administration	The user can do all settings and functions.	

Authorizations of the Preset User Accounts

User Accounts	Default Password	Display Icon	Access Rights			
			Settings	Extended Settings	Maintenance	Administration
Shift supervisor	1111		X			
Maintenance	3333		X	X	X	
Administrator	admin		X	X	X	X
Rieter Service	Supplied by Rieter--		X	X	X	X
Rieter Development	Supplied by Rieter		X	X	X	X

7.5.4 Basic Operation Steps

The basic operation steps give basic information about how to operate the data screens.

7.5.4.1 Doing the User Login

1. Tap the touch key **User login**.



Figure 110: Touch key User login

⇒ The data screen **0.3 Access** opens.

2. Select the user from the drop-down menu **2** in the data screen **0.3 Access**.

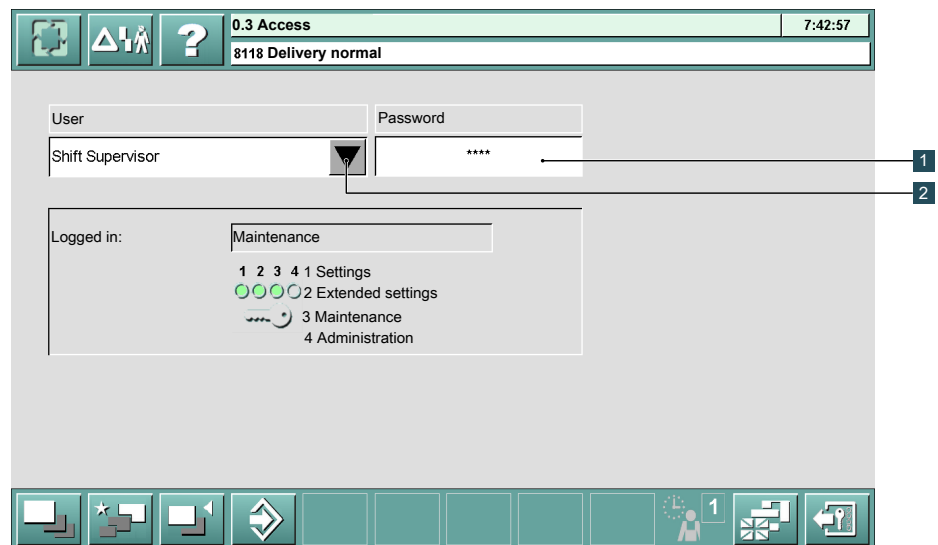


Figure 111: Data screen 0.3 Access

3. Tap the field **1**.
 - ⇒ A text box shows.
4. Enter the password in the text box.
 - ⇒ The entered password is shown as asterisks for the protection of the password.
 - ⇒ The authorization level is shown in color on the touch key **User login**.
 - ⇒ The user can change the parameter values and the settings.

Result The user login is done.

7.5.4.2 Doing the User Logout

1. Tap the touch key **User login**.



Figure 112: Touch key User login

⇒ The data screen **0.3 Access** opens.

2. Tap the touch key **User logout** in the data screen **0.3 Access**.



Figure 113: Touch key User logout

⇒ Access rights are not shown on the touch key **User login**.

⇒ The parameter values and the settings are not possible to be changed.

Result The user logout is done.

7.5.4.3 Making a User Account

The operator can make user accounts with different access rights to the system. The operator can keep more than 1 user account with different access rights. To make a user account, the operator must log in as Administrator.

1. Tap the touch key **User administration** in the data screen **0.3 Access**.
⇒ The data screen **0.4 User Administration** opens.
2. Tap the touch key **3** in the data screen **0.4 User Administration**.
3. Enter the username in the field **User name** **1**.
4. Enter the password in the field **Password (4..8 char)** **2**.
5. Enter the password again in the field **Verify password** **4**.
6. Select the authorization levels in the field **5**. More than 1 authorization level is permitted.
7. Cancel the entries and selections with the touch key **7** if necessary.
8. Tap the touch key **6** for the confirmation of the entries and the selections.

Result A user account is made.

7.5.4.4 Editing or Deleting the User Account

To edit or delete the user account, the operator must log in as Administrator.

1. Tap the touch key **User administration** in the data screen **0.3 Access**.
⇒ The data screen **0.4 User Administration** opens.
2. Select the target user account with the touch keys **1** in the data screen **0.4 User Administration**.
3. Tap the touch key **2** to edit the user account.
⇒ The data screen **0.4.1 Edit User** opens.
4. Edit the user account in the data screen **0.4.1 Edit User**.
5. Tap the touch key **Previous data screen** to close the data screen **0.4.1 Edit User**.
6. Tap the touch key **3** to delete the user account.
⇒ The user account is deleted after the confirmation.

Result The user account is edited or deleted.

7.5.4.5 Using the Help Function

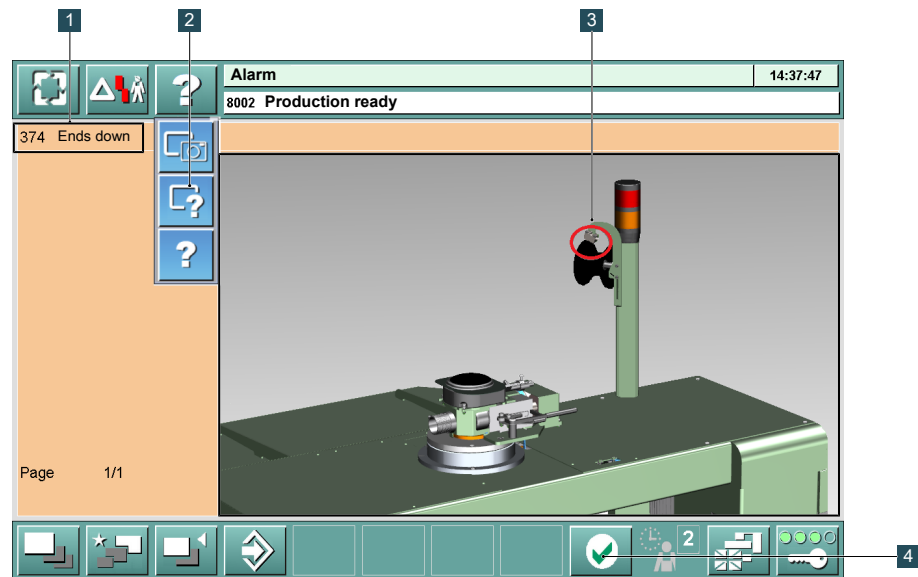


Figure 114: Fault message

- | | |
|--|-------------------------------|
| 1 Fault message with the fault message code | 2 Key to show the help |
| 3 Red blinking circle | 4 Acknowledge key |

1. The red blinking circle **3** shows the fault location at the machine.
2. Tap the help key **2** to see the help information for the fault message **1**.

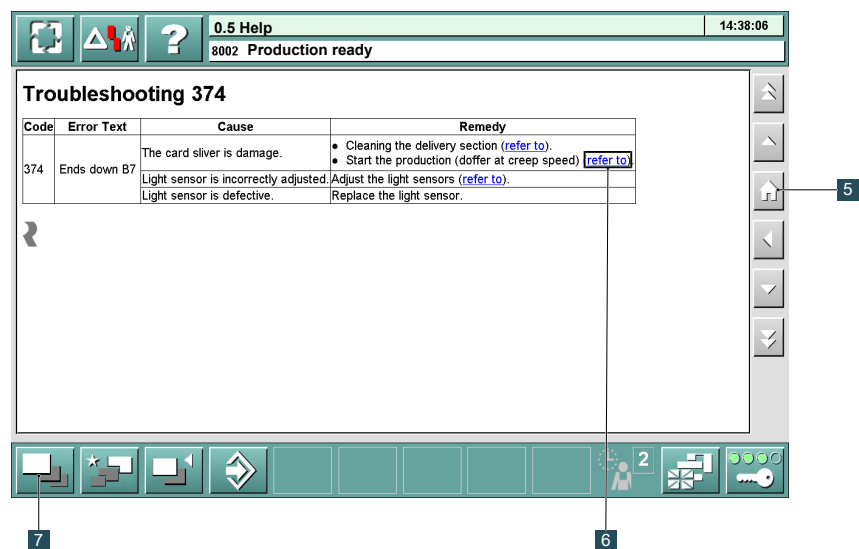


Figure 115: Help

⇒ The corresponding troubleshooting shown in data screen of help.

3. Tap the link **6** to see more details.
4. Tap the home key **5** to go back to the data screen of help.

5. Solve the cause for the fault refer to the troubleshooting.
6. Tap overview key **7** to go back to the data screen of fault message.
7. Tap the acknowledge key **4** to close the fault message.

The Help Information is Loading

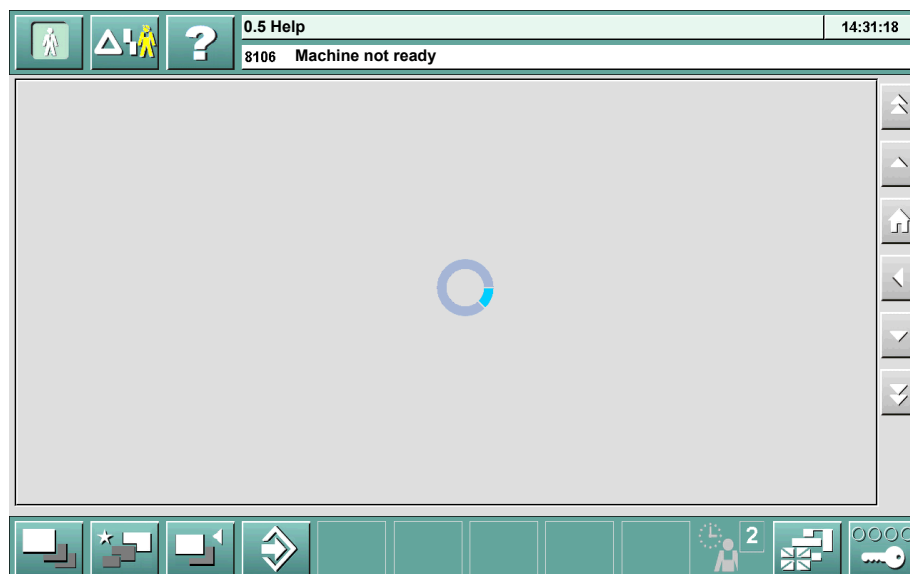


Figure 116: Loading the help information

The symbol in this data screen shows that the help file is loading.

The Help Information is Not Available

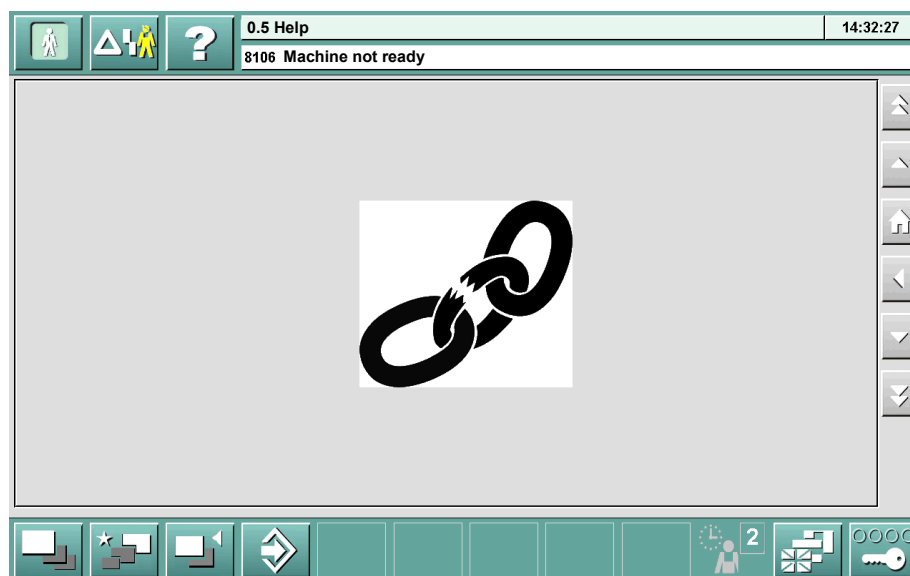


Figure 117: Link is broken

The symbol in this data screen shows that there is no help information for the current fault message.

The user can tap the preview data screen key to exit this data screen.

7.5.4.6 System Start-up

The system start-up occurs in the conditions that followed:

- The machine is switched on with the main switch.
- The system starts for the first time.
- After changing the configuration of the machine, the system needs to start again.

During the system start-up procedure, the processing chart is shown in the middle of the data screen to indicate the current step.

The data screens that follow are the examples of the step 7 and step 8.

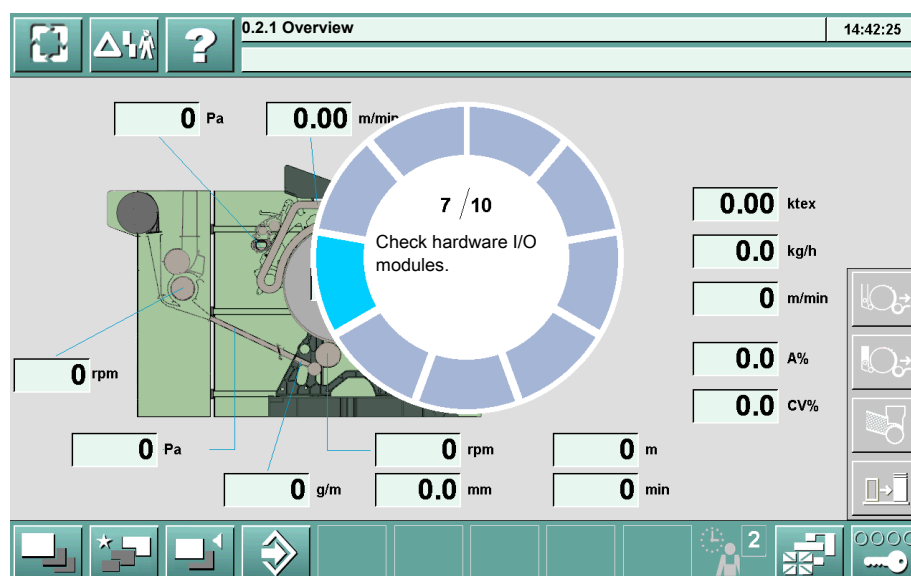


Figure 118: Start-up step 7

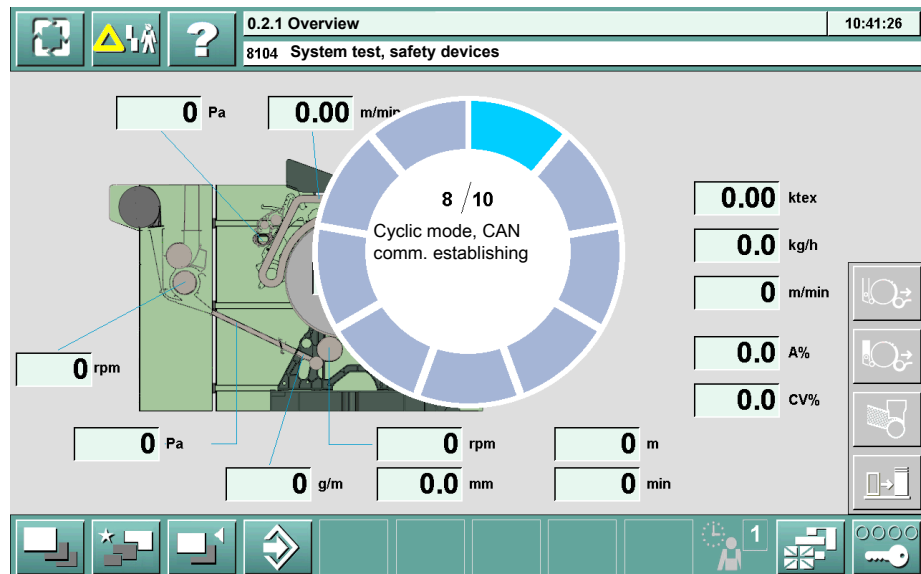


Figure 119: Start-up step 8

If the system has no response for the long time during the start-up procedure, the user is recommended to send the picture of the data screen to Rieter service for the help.

7.6 Structure of the Data Screens

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
0.2.1	Overview ▶ 138	--	--
0.1	Main menu	--	--
0.3	Access	--	--
0.5	Help	--	--
1	Information	--	--
1.1	General info	--	--
1.1.1	Machine info ▶ 139	0	--
1.1.2	Actual values machine ▶ 140	0	--
1.1.3	Actual values work elements ▶ 141	0	--
1.1.4	Production efficiency / MTBA ▶ 142	0	--
1.1.5	Trend curves	--	--
1.1.5.2	Suction vacuum ▶ 143	0	--
1.1.5.3	Actual values batt ▶ 144	0	--

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
1.1.6	Production actual values extended	3	--
1.1.6.1	<i>Regulation sliver ▶ 145</i>	3	--
1.1.6.2	<i>Act. values delivery / sag ▶ 146</i>	3	--
1.1.6.3	<i>Reg. sag (batt) ▶ 147</i>	3	--
1.1.6.4	<i>Reg. chute ▶ 148</i>	3	--
1.1.6.5	<i>Act. Values flats ▶ 149</i>	3	--
1.1.6.6	<i>Act. Values work elements ▶ 150</i>	3	--
1.2	Production info	--	--
1.2.1	<i>Production current shift ▶ 151</i>	0	--
1.2.2	<i>Production last shifts ▶ 152</i>	0	--
1.2.3	<i>Production shift totals ▶ 153</i>	0	0
1.3	Quality info	--	--
1.3.1	Quality act. Values RQM	--	--
1.3.1.1	Q-data actual values RQM A%	0 (RSB)	--
1.3.1.2	Q-data actual values RQM CV %..CV100	0 (RSB)	--
1.3.1.3	Q-data actual values RQM spectrogram	0 (RSB)	--
1.3.1.4	Quality act. Val. RQM slubs	0 (RSB)	--
1.3.2	Actual values module inlet	0 (RSB)	--
1.3.2.1	Q-data actual values module inlet A%	0 (RSB)	--
1.3.2.2	Q-data act. Val. module inlet C%	0 (RSB)	--
1.3.3	Actual values Card	0	--
1.3.3.1	<i>Q-data act. Val. card A% ▶ 154</i>	0	--
1.3.3.2	<i>Q-data act. Val. Card CV %..CV100 ▶ 155</i>	0	--
1.3.3.3	<i>Q-data act. Val. Card Spectrogram ▶ 156</i>	0	--
1.3.3.4	<i>Quality, act. Val. card slubs ▶ 157</i>	0	--
1.3.4	Actual values card feed	0	--

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
1.3.4.1	Q-data act. Val. Card feed CV ▶ 158	0	--
1.4	Protocols / Statistics	--	--
1.4.1	Alarms / Warnings ▶ 159	0	--
1.4.2	Event history ▶ 160	0	--
1.4.3	Value changes history ▶ 162	0	--
1.4.4	Maintenance logbook ▶ 163	0	--
1.4.5	Event statistics ▶ 164	0	--
1.4.6	Exceptions	--	--
1.4.6.2	Exception statistic D95K ▶ 165	0	--
1.5	Energy info	With energy monitoring equipment	--
1.5.1	Electrical Energy	With energy monitoring equipment	--
1.5.1.1	Basic Data ▶ 167	With energy monitoring equipment	--
1.5.1.2	Summarized Data ▶ 168	With energy monitoring equipment	--
1.5.1.3	Graph ▶ 169	With energy monitoring equipment	--
1.5.1.4	Shift History ▶ 170	With energy monitoring equipment	--
1.5.1.5	Additional Data	With energy monitoring equipment	Rieter service
1.6	Diagnostic control system	--	--
1.6.1	Diagnostic hardware	--	--
1.6.1.1	Information freq. converter ▶ 171	0	--
1.6.1.2	CAN slaves ▶ 172	0	--

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
1.6.1.3	SW versions RSB	0	--
1.6.1.4	Overview digital inputs ▶ 173	0	--
1.6.1.5	I/O Overview D95K ▶ 174	0	--
2	Production	--	--
2.1	Article settings	--	--
2.1.1	Production setpoints ▶ 175	0	1
2.1.2	Sort sliver ▶ 176	0	1
2.1.3	Nominal values working elements ▶ 177	0	1
2.1.5	Extended nominal values	3	--
2.1.5.1	Set values card extended ▶ 178	3	--
2.1.5.2	Set values chute extended ▶ 179	3	--
2.2	Nominal values Quality	--	--
2.2.1	Q-data set values, RQM	0(RSB)	--
2.2.1.1	Q-data set values RQM A%	0(RSB)	1
2.2.1.2	Q-data set values RQM CV%	0(RSB)	1
2.2.1.3	Q-data set values RQM spectrogr.	0(RSB)	1
2.2.1.4	Quality target values RQM slubs	0(RSB)	1
2.2.2	Q-data Nominal values, card	0	--
2.2.2.1	Q-data set values card A% ▶ 180	0	1
2.2.2.2	Q-data set values card CV% ▶ 181	0	1
2.2.2.3	Q-data nominal val. corrected CV % ▶ 182	0	1
2.2.2.4	Q-data set values card spectrogr. ▶ 183	0	1
2.2.2.5	Q-data set values card slubs ▶ 184	0	
2.3	Machine settings	--	--
2.3.1	Settings card	--	--
2.3.1.1	Settings card delivery ▶ 186	0	1
2.3.1.2	Feed / Cylinder ▶ 188	0	1
2.3.1.3	Settings IGS ▶ 191	0	1

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
2.3.1.4	Chute settings ▶ 192	0	1
2.3.1.5	Settings extended 1 ▶ 193	0	3
2.3.1.6	Settings extended 2 ▶ 195	0	3
2.3.1.7	Settings extended 3 ▶ 196	0	3
2.3.2	Settings coiler	--	--
2.3.2.1	Settings coiler I ▶ 197	0	1
2.3.3	Settings RSB	--	--
2.3.3.1	Settings RSB can changer	0(RSB)	
2.3.3.2	Settings RSB drafting system, sliver funnel	0(RSB)	
2.3.3.3	Settings RSB coiler	0(RSB)	
2.3.3.4	Settings RSB suction	0(RSB)	
2.3.4	Settings RSB autoleveller	0(RSB)	
2.3.4.1	RSB Autoleveller	0(RSB)	
2.3.4.2	RSB levelling action point	0(RSB)	
2.3.4.3	RSB levelling intensity	0(RSB)	
3	Common settings	--	--
3.1	General settings	--	--
3.1.1	Date/ time ▶ 199	0	3
3.1.2	Units ▶ 200	0	1
3.1.3	Languages ▶ 201	0	0
3.1.4	Display properties ▶ 202	0	0
3.2	Shift settings	--	--
3.2.1	Shift general ▶ 203	1	1
3.2.2	Shift schedule	1	1
3.3	Configuration	--	--
3.3.1	Network config. ▶ 205	0	3
3.3.2	Machine data ▶ 206	0	3
3.3.3	Machine configuration ▶ 207	0	3
3.3.4	Coiler configuration ▶ 209	0	3
3.3.5	Chute configuration ▶ 210	0	3
4	Maintenance / Tests	--	--

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
4.1	Maintenance	--	--
4.1.1	<i>Data export ▶ 211</i>	0	0
4.1.2	<i>Data import ▶ 212</i>	0	0
4.1.3	Maintenance clothings / coiler	--	--
4.1.3.1	<i>Maintenance machine clothing I ▶ 213</i>	0	3
4.1.3.2	<i>Maintenance machine clothing II ▶ 214</i>	0	3
4.1.3.3	<i>Maintenance clothings IGS ▶ 215</i>	0	3
4.1.3.4	Lubrication coiler	0(SB / RSB)	--
4.1.3.5	Sensor ATL	0(RSB)	--
4.1.3.6	Sensor RQM	0(RSB)	--
4.1.5	<i>Operation mode switchover ▶ 216</i>	0	3
4.1.6	Maintenance grinding	--	--
4.1.6.1	<i>Grind cylinder clothing ▶ 217</i>	0	3
4.1.6.2	<i>Grind doffer clothing ▶ 218</i>	0	3
4.1.6.3	<i>Servicing, flats, clothing ▶ 219</i>	0	3
4.2	Tests	--	--
4.2.1	<i>Test of digital inputs ▶ 220</i>	3	3
4.2.2	<i>Test of analog inputs ▶ 222</i>	3	3
4.2.3	<i>Test of digital outputs ▶ 223</i>	3	3
4.2.4	<i>Test of door saf. devices and watchdog ▶ 225</i>	3	3
4.2.5	Test drives I	--	--
4.2.5.1	<i>Test of feed roller in chute ▶ 226</i>	3	3
4.2.5.2	<i>Test of opening roller in chute ▶ 227</i>	3	3
4.2.5.3	<i>Test of fan in chute ▶ 228</i>	3	3
4.2.5.4	<i>Test of licker-in ▶ 229</i>	3	3
4.2.5.5	<i>Test of cylinder ▶ 230</i>	3	3
4.2.5.6	<i>Test of flats drive ▶ 231</i>	3	3
4.2.5.7	<i>Test of clearer roller of flats ▶ 232</i>	3	3

Data Screen Number	Data Screen Name	Password Level	
		Display	Change Value
4.2.6	Test drives II	--	--
4.2.6.1	Test of cleaning brush ▶ 233	3	3
4.2.6.2	Test of feed roller in card ▶ 234	3	3
4.2.6.3	Test of doffer in card ▶ 235	3	3
4.2.6.4	Test of delivery unit ▶ 236	3	3
4.2.6.5	Test of main motor of coiler ▶ 237	3	3
4.2.6.6	Test compression rollers	3	3
4.2.7	Test/programming devices	--	--
4.2.7.1	Test Control unit	--	--
4.2.7.2	Test of converter ▶ 239	3	3
4.2.7.3	Test of IGS classic ▶ 240	3	3
4.2.7.4	Test of IGS top ▶ 241	3	3
4.2.7.8	Test of mote knife lick-in ▶ 244	3	3
4.3	Diagnostics	--	--
4.3.1	System diagnosis ▶ 245	Rieter service	--
4.3.2	Event diagnostics	--	--
4.3.3	Remote maintenance diagnostics ▶ 246	--	--

7.7 Data Screens

7.7.1 Data Screen 0.2.1 Overview

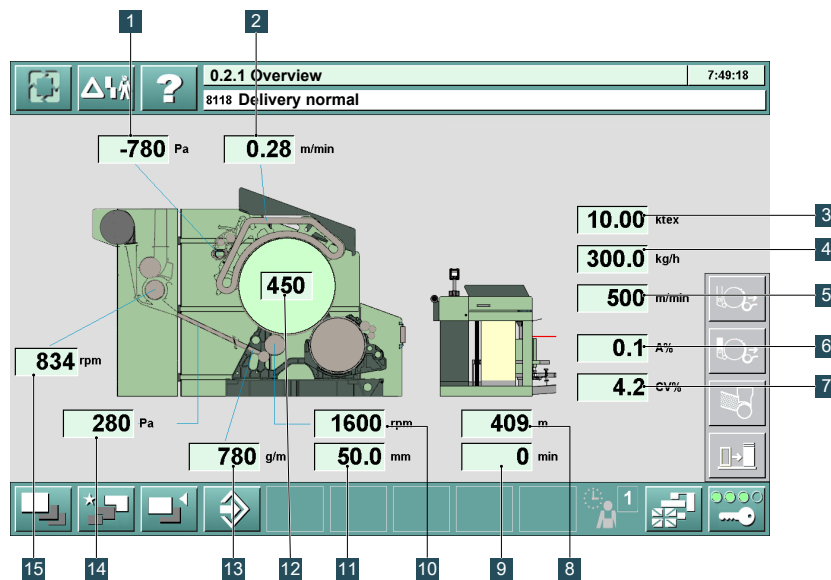


Figure 120: Overview

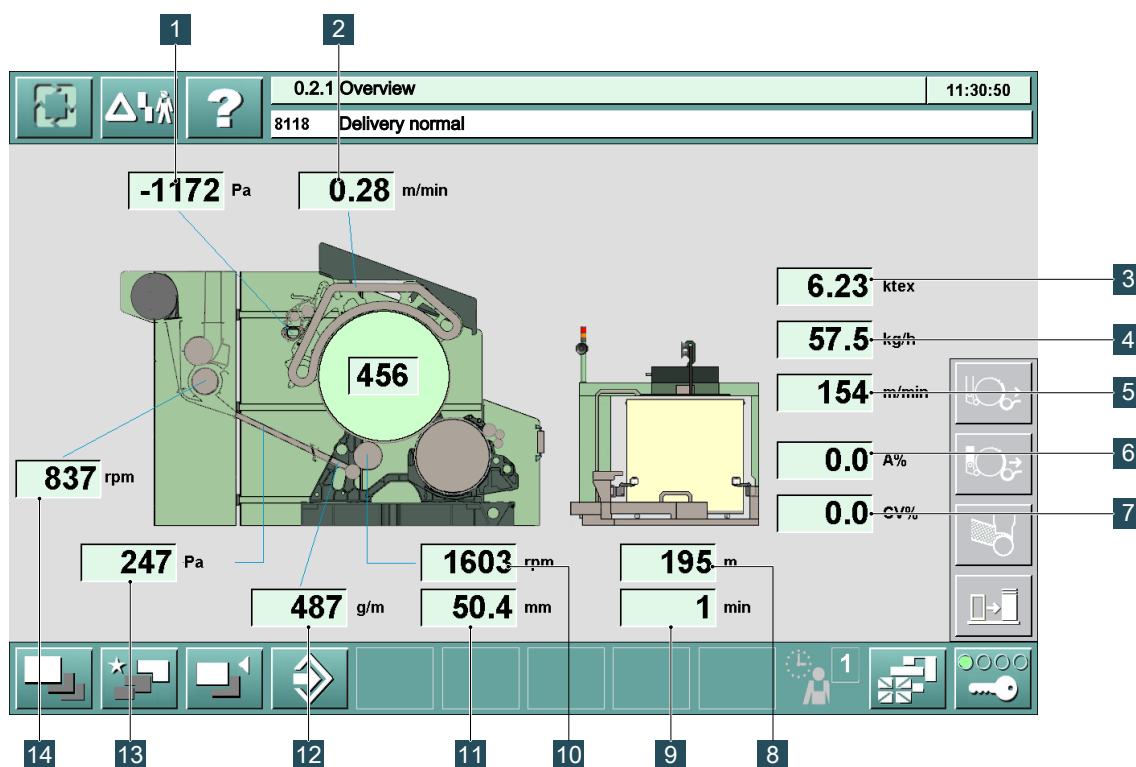


Figure 121: Overview

1 The suction value

2 The speed of the card flats

3	The sliver weight	4	The production
5	The delivery speed	6	The A% value
7	The CV% value	8	The left sliver length until the can change
9	The left time until the can change	10	The speed of the licker-in roller
11	The opening width of the mote knife	12	The speed of the cylinder
13	The batt weight	14	The pressure in the feed channel
15	The speed of the opening roller		

In the overview data screen, the user can read the actual value of the machine.

7.7.2 Data Screen 1.1.1 Machine Info

1.1.1 Machine info 7:46:55

8118 Delivery normal

Machine type C80 H No. 1

Serial number 40026276-00009

Construction year 2018

Operating hours 15 h

Machine SW version S0.69.0

Software release A20 0.00

1 Card Max. delivery 500 m/min WA6/7 64/51

Figure 122: Data screen 1.1.1 machine info

This data screen shows the general machine information.

Software release A20

This field shows the information related to the software release.

Card Max. delivery 500 m/min WA6/7 64/51

The field **1** is only visible for the user with the level of maintenance or higher.

The field **1** shows the maximum possible delivery.

7.7.3 Data Screen 1.1.2 Actual Values Machine

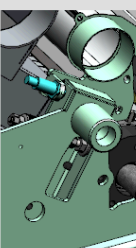
1.1.2 Actual values Machine		7:50:13	
8118 Delivery normal			
	Sliver weight	10.00	ktex
	Production	300.0	kg/h
	Delivery	500	m/min
	Can change	9 min	4860 m
	Total draft Card	92	
	Calc. batt feed	780	g/m
	Modulation scanner	25	%

Figure 123: Data screen 1.1.2 actual values machine

This data screen shows the actual production values.

Calc. batt feed

The **Calc. batt feed** shows the weight of the lap feed calculated.

Lap feed = sliver weight x total draft + weight of waste.

These values are determined over the last 30 seconds.

Modulation scanner

Examining the limit of the control range of the measuring device.

See *Examining the Modulation of the Measuring Device* ▶ 308

7.7.4 Data Screen 1.1.3 Actual Values Work Elements

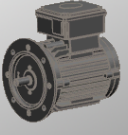
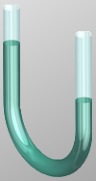
1.1.3 Production Act. values Work elements		7:50:25	
8118 Delivery normal			
	Flat speed	0.28	m/min
	Cylinder speed	450	rpm
	Licker-in speed	1600	rpm
	Ejection dist. Licker-in	50.0	mm
	Opening roller speed	834	rpm
	Chute fan Modulation	68	%
	Chute Calculated nominal value & actual value of pressure	280.0 Pa	279.9 Pa
	Vacuum in suction device	-780	Pa

Figure 124: Data screen 1.1.3 actual values work elements

This data screen shows the actual values of the work elements.

The values in each field cannot be changed.

7.7.5 Data Screen 1.1.4 Production Efficiency / MTBA

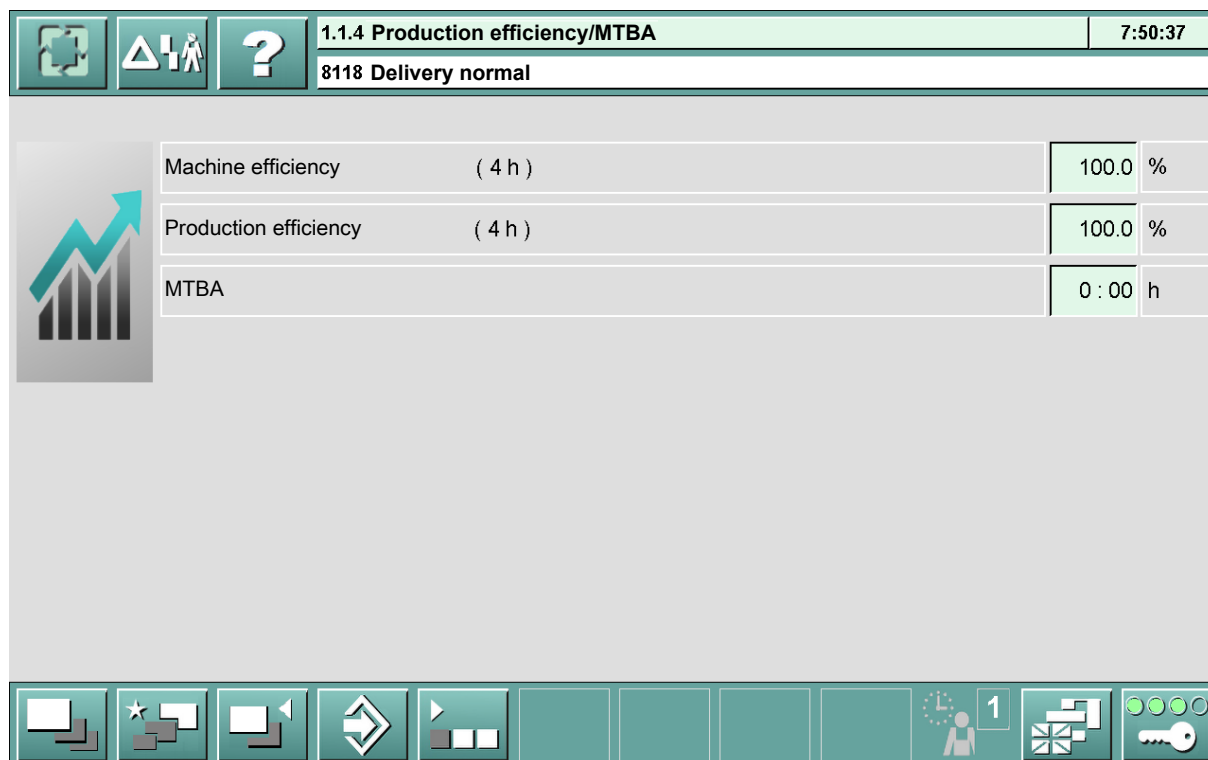


Figure 125: Data screen 1.1.4 production efficiency / MTBA

This data screen shows the values related to the operating behavior of the machine.

The user can't change the values in this field.

Machine efficiency

This field shows the machine availability during these hours. The time in which the machine is not used without a queued fault is not included in the calculation.

The user can set the time base (1 -8 h) to calculate the efficiency in data screen 3.1.1.

Production efficiency

This field shows the ratio of the actual production of the machine to the theoretically possible production. The time in which the machine is stopped is not included in the calculation.

MTBA

The calculation occurs on an operating basis over 7 days. During this time, the normal runtime is continuously compared with the number of faults that occurred, and an evaluation will be given.

Before an event, the machine has produced for at least 50 seconds with normal production. At slow speed, or at runtimes shorter than 50 seconds after fault correction, a standstill is not taken into account.

If during this time period, many stops caused by the machine are recorded in a single day, these stops will be included in the calculation after the sixth day. Only thereafter these stops will be removed from the calculation.

7.7.6 Data Screen 1.1.5.2 Suction Vacuum

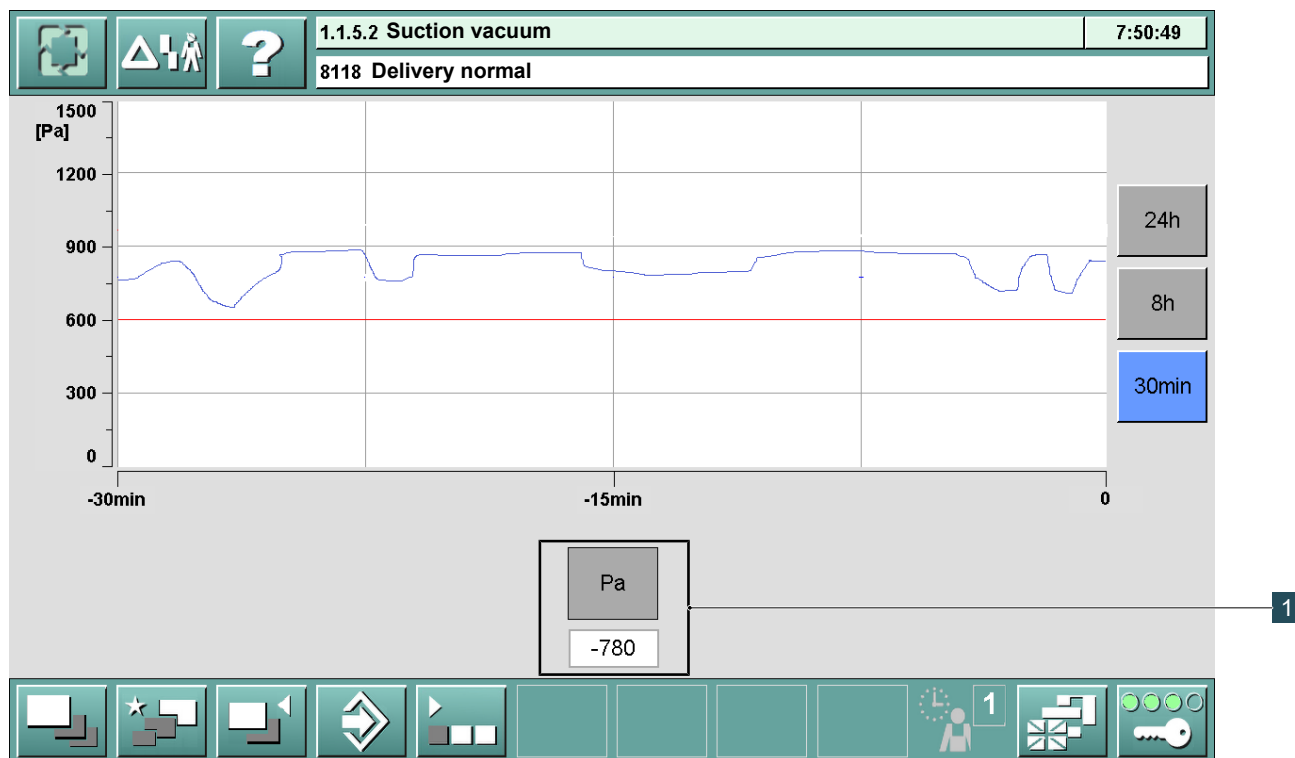


Figure 126: Data screen 1.1.5.2 suction vacuum

This data screen shows the gradient of the suction value of the card.

Red Line

The red line indicates the shut-off limit value which is set in field of **Shut-off thresh. Suc.press.** in the data screen 2.3.1.2.

Blue Line

The blue line indicates the actual suction value of the card.

Time Base for the Diagram

The time base (24h / 8h / 30min) can be changed without any loss of data.

The pressure gradient diagram is shown in the selected time base.

Current Suction Vacuum

The value in the field **1** shows actual suction value currently.

7.7.7 Data Screen 1.1.5.3 Actual Values Batt

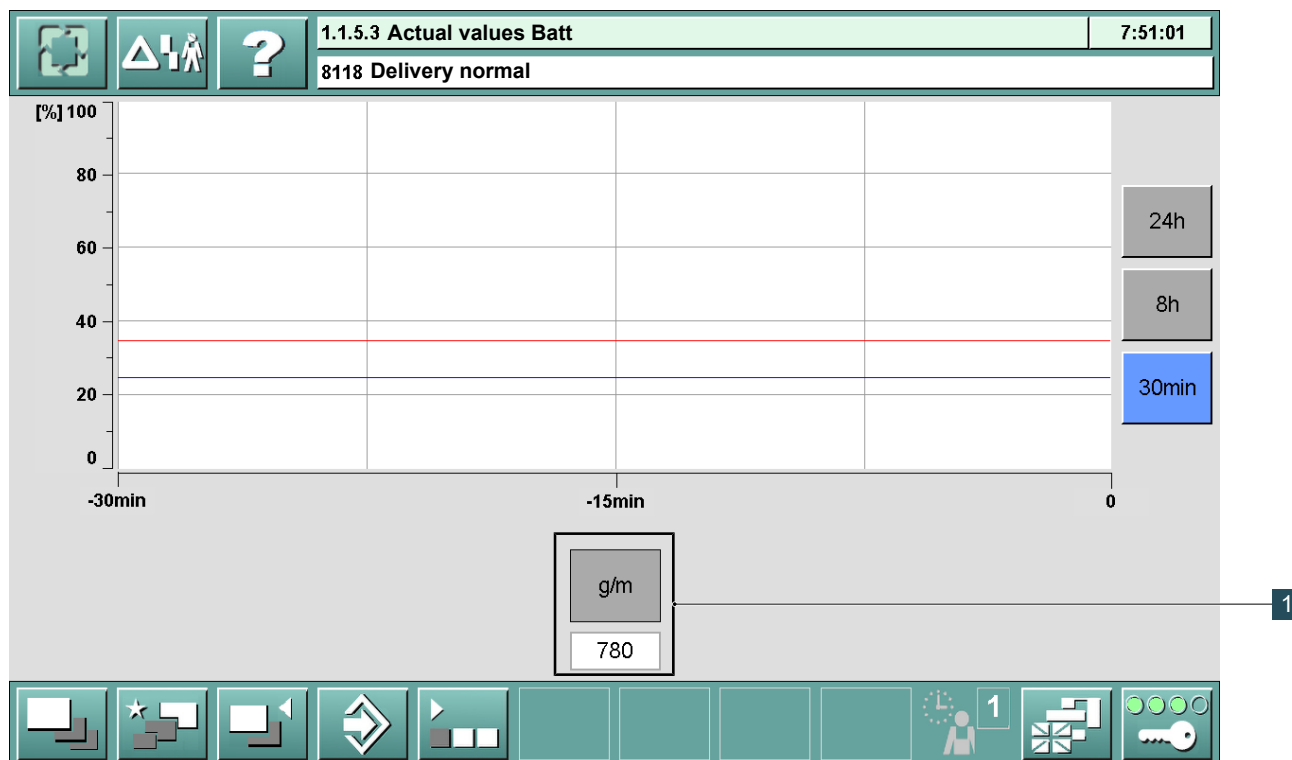


Figure 127: Data screen 1.1.5.3 actual values batt

This data screen shows the gradient of the batt weight measured in actual time by the scanner in the infeed on the feed trough.

A constant batt weight is an important prerequisite for a high-quality card sliver. Consequently this diagram is a reliable source for optimizing the system.

This diagram shows the quality of the entire preceding process. Therefore it gives important information related to events or errors in the blow room.

Red Line

The red line indicates the shut-off limit value which is shown in the field **Switch-off limit Max. batt weight** in data screen 2.3.1.2.

When the measured batt weight is more than the max. batt weight, it is possible that a foreign object comes into the card, for the safety reason the machine will stop.

Blue Line

The blue line indicates the actual batt weight of the card

Time Base for the Diagram

The time base (24h / 8h / 30min) can be changed without any loss of data.

The diagram of batt weight gradient is shown in the selected time base.

Current Batt Weight

The value in the field **1** shows actual batt weight currently.

7.7.8 Data Screen 1.1.6.1 Regulation Sliver

1.1.6.1 Prod. Act. val. Sliver reg.				7:51:13	
8118 Delivery normal					
BndAD	0	Band	0.000	Tff	0
Activ	On	Delta	0.000	FFant	0
Plant	0	SWBnd	0	SWSga	0
SWtot	0	ExKAD	0		

Figure 128: Data screen 1.1.6.1 regulation sliver

To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen is used for software diagnostics and does not contain shift-related production data. All parameters that are not listed are internal control parameters.

BndAD

This field shows the A/D converter value for the scanner in the delivery (disk rollers).

Band

This field shows the unfiltered card sliver weight in ktex.

Activ

This field shows the levelling of the card sliver weight.

If this field shows **On**, the levelling is switched on.

If the field shows **Off**, the levelling is switched off.

7.7.9 Data Screen 1.1.6.2 Act. Values Delivery / Sag

1.1.6.2 Prod. Act. val. Delivery unit & sag (RSB)						7:51:25
8118 Delivery normal						
Delivery card						
Activ	Off	Delta	0.00	Nabn	99.99	
Vausl	500.10	VaTot	0.00	VaKoA	0.00	
VerBa	1.06	VerAS	0.00	VerAB	0.00	
Nsta2	0	ExVAD	0			
Sag card RSB						
DuhaAD	0	Stellwert	0			
Planteil	0	SGAanteil	0			

Figure 129: Data screen 1.1.6.2 act. values delivery / sag

To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen does not contain the shift-related production data.

This data screen is used for software diagnostics. All parameters that are not listed are internal control parameters.

Activ

This field shows the levelling of the delivery speed.

If this field shows **On**, the levelling is switched on.

If the field shows **Off**, the levelling is switched off.

Nabn

This field shows the doffer rpm.

Vausl

This field shows the unfiltered value of the delivery speed of disk roller.

VerBa

This field shows the draft between the disk rollers and the calender rollers of the sliver coiling device CBA.

VerAS

This field shows the draft between the doffer and the disk rollers.

VerAB

This field shows the draft between the doffer and the calender rollers of the coiler.

7.7.10 Data Screen 1.1.6.3 Reg. Sga (batt)

1.1.6.3 Reg. Sga (batt)				7:51:37
8118 Delivery normal				
Activ	Off			
WatAD	0	Watte	710.0	WatMt 777.7
WatFk	2000.0	WFmax	1000.0	Wmin 500.0
BlgSpw	0.000	BlgWat	0.0	WMoff 0.0
Delta	0.0	WaAge	0.00	AnzEle 0
QuotW	100.0			

Figure 130: Data screen 1.1.6.3 reg. sga (batt)

To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen does not contain shift-related production data.

The data screen is used for software diagnostics. All parameters that are not listed are internal control parameters.

Activ

Short-term feature

- Off: switched off
- On: switched on

WatAD

A/D converter value for the position transducer in the feed.

WatMt

Average batt weight standardized. (Over the last 15 minutes)

WatFk

Shut-off threshold of the foreign object monitor standardized.

7.7.11 Data Screen 1.1.6.4 Reg. Chute

			1.1.6.4 Chute reg.		7:51:49
			8118 Delivery normal		
SpwNO	0	Paend	0	Ueber	25.0
		Pmitl	0	Leerl	13.0
Watte	800	Pff	0	Ppi	0
KorMo	0.0	KorMi	0.0	PWkorr	0
DrDiMo	0.0	DrDiMi	0.0	KpDru	0.00
Verst	0.0	Offs	0	DruAD	0
TVorl	840	ZPSch	0.00		

Figure 131: Data screen 1.1.6.4 reg. chute

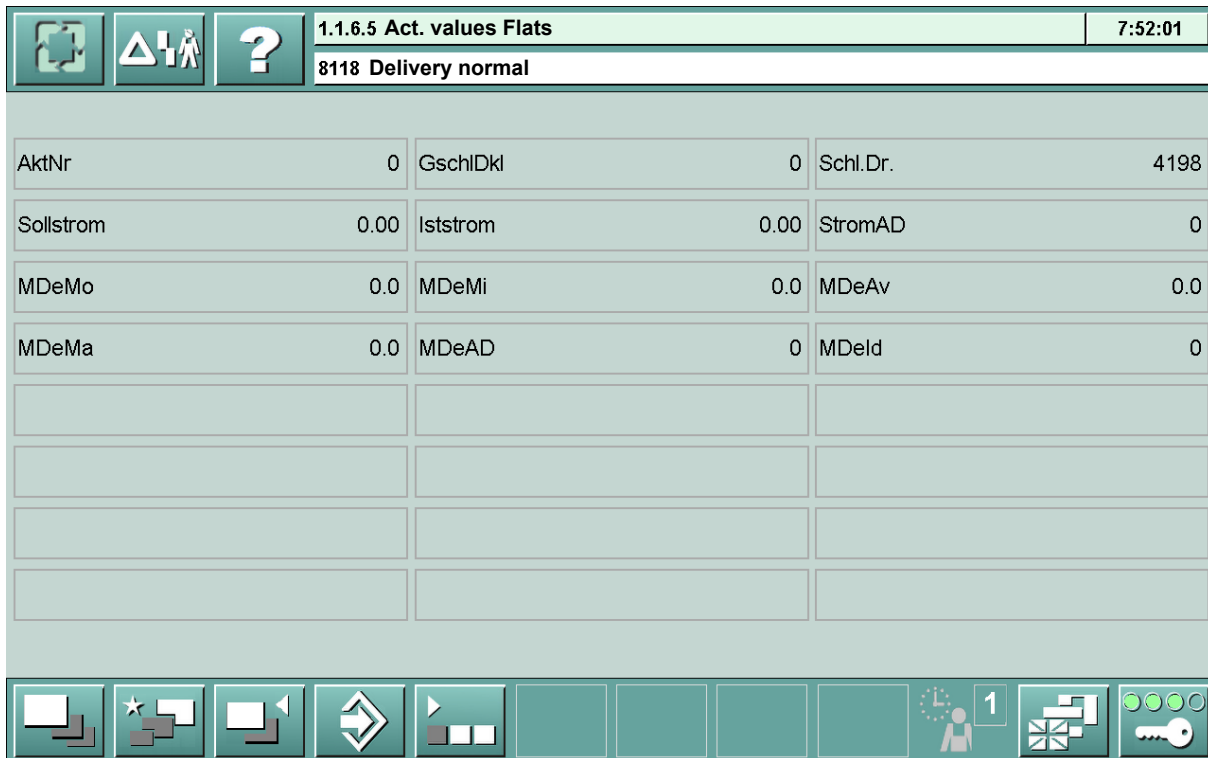
To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen does not contain shift-related production data.

The data screen is used for software diagnostics. All parameters that are not listed are internal control parameters.

7.7.12 Data Screen 1.1.6.5 Act. Values Flats



1.1.6.5 Act. values Flats			7:52:01
8118 Delivery normal			
AktNr	0	GschIDkl	Schl.Dr. 4198
Sollstrom	0.00	Iststrom	StromAD 0
MDeMo	0.0	MDeMi	MDeAv 0.0
MDeMa	0.0	MDeAD	MDeId 0

Figure 132: Data screen 1.1.6.5 act. values flats

To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen does not contain the shift-related production data of the flats.

This data screen is used for software diagnostics.

AktNr

This field shows the number of card flats counted since the reference card flat.

GschIDkl

This field shows the number of the card flats that have been processed since the start of the IGS-Top grinding cycle.

StromAD

This field shows the AD converter value of the actual current for the IGS-Top grinding drive.

7.7.13 Data Screen 1.1.6.6 Act. Values Work Elements

1.1.6.6 Act. values Work elements				7:52:13
8118Delivery normal				
Cylinder				
MaxNAend	0	UnterSetz	3.855	
Licker-in				
MaxNAend	0	VrzTroVrsr	0.0000	
MesPos	50.0	MesPosAD	0	MesPosRef 99.9
VrsrN0	1600			

Figure 133: Data screen 1.1.6.6 act. values work elements

To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen does not contain the shift-related production data of the work elements.

The data screen is used for software diagnostics.

VrzTroVrsr

This field shows the mathematical draft calculation between the actual speeds of the licker-in and the cylinder.

MesPos

This field shows the current position of the mote knife.

MesPosAD

This field shows the A/D converter value for the position of the mote knife.

MesPosRef

This field shows the reference position of the mote knife.

VrsrN0

This field shows the speed of the lick-in.

7.7.14 Data Screen 1.2.1 Production Current Shift

1.2.1 Production Current shift		7:46:19
8118 Delivery normal		
Current shift	1	
Production	0.00 km	0.0 kg
Machine efficiency	100.0 %	
Production efficiency	100.0 %	

Figure 134: Data screen 1.2.1 production current shift

This data screen shows the shift counters of the selected shift.

Current shift

The shift data of the **Current shift** is continuously added up and saved.

If another shift is selected, the data for the previous shift remains in abeyance until the same shift is again selected.

Production

In this field, the user can read the production values in km and in kg.

Machine efficiency

The user can set the time basis for calculation of **Machine efficiency** in data screen 3.1.1 **Date/Time**.

The **Machine efficiency** reflects the machine availability during these hours. The time in which the machine was not used without a queued fault is not included in the calculation.

Production efficiency

The user can set the time basis for calculation of **Production efficiency** in data screen 3.1.1 **Date/Time**.

The **Production efficiency** shows the ratio of the actual production of the machine to the theoretically possible production. The time in which the machine was stopped is included in the calculation.

7.7.15 Data Screen 1.2.2 Production Last Shifts

1.2.2 Production Last shifts					7:46:30
8118 Delivery normal					
Shift	Production		%	Start time	
3	0 km	0 kg	100.0	12.08.2019 22:00	
2	0 km	0 kg	97.7	12.08.2019 15:51	
1	0 km	0 kg	0.0	12.08.2019 15:50	

Figure 135: Data screen 1.2.2 production last shifts

This data screen shows the production and efficiency of each shift.

This data screen is the overview of the production and the efficiency of the completed shifts and the current shift.

7.7.16 Data Screen 1.2.3 Production Shift Totals

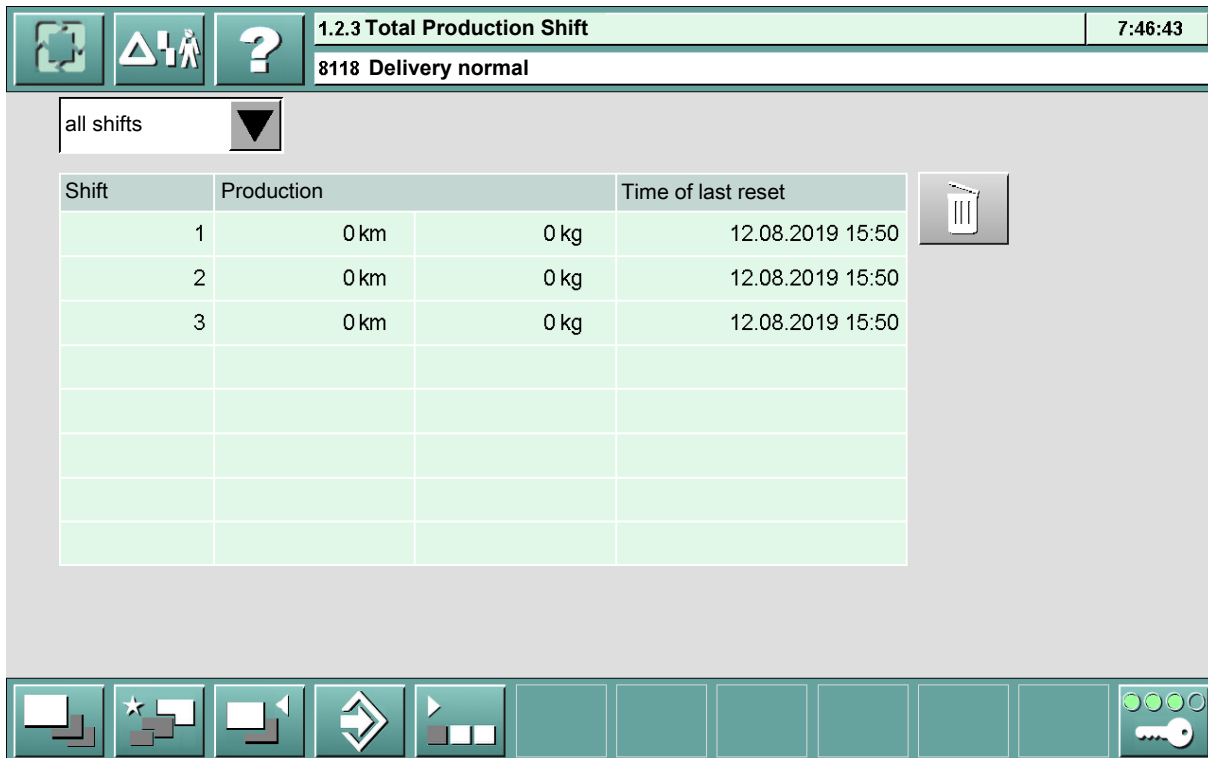


Figure 136: Data screen 1.2.3 production shift totals

This data screen shows the deleted sums from the current shift counter.

Production

Summation counter of the production for the selected shift since the time in the field **Time of last reset**.

7.7.17 Data Screen 1.3.3.1 Q-Data Actual Values Card A%

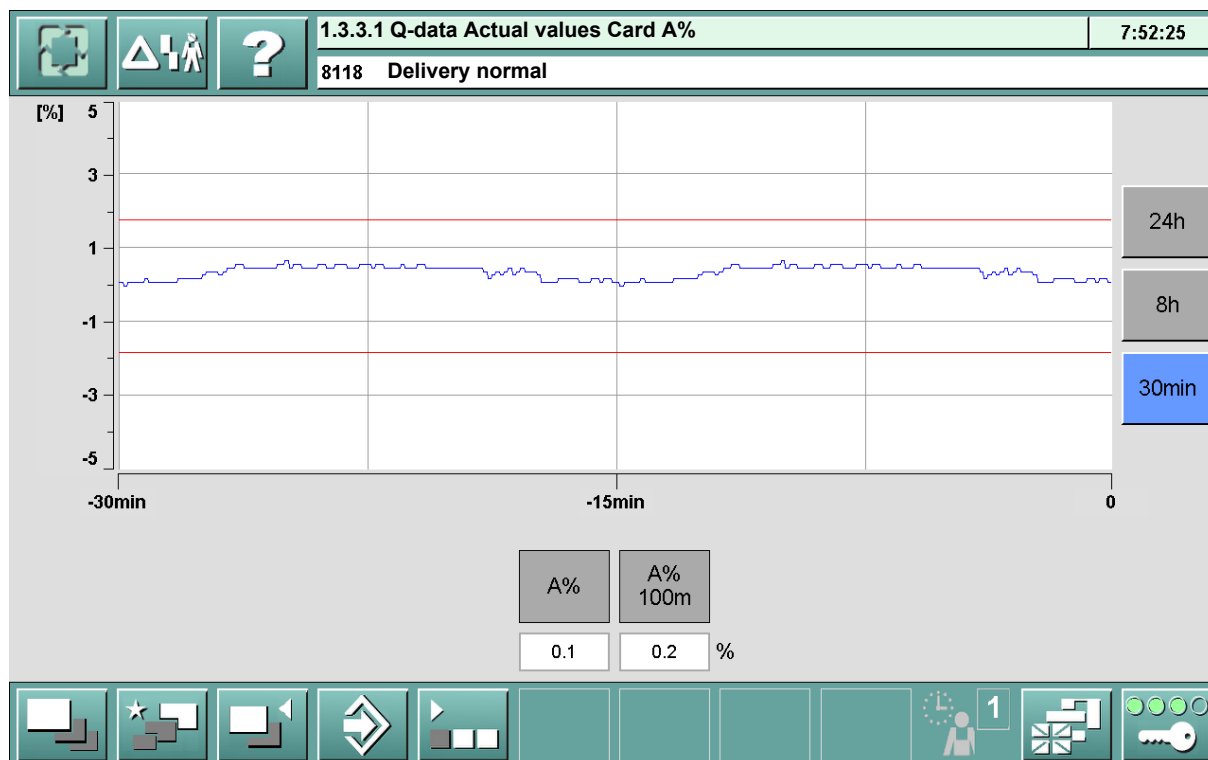


Figure 137: Data screen 1.3.3.1 Q-data actual values card A%

This data screen shows the difference between the actual value and the set point of the sliver weight.

Time Interval for the Diagram

The time interval (24 h / 8 h / 30 min) can be changed without any loss of data resulting from the changeover.

A diagram is shown with the selected time base.

A%

Calculation after the measured length entered in data screen 2.2.2.1 **Q-data Nominal values Card A%**.

A% 100m

Calculation after 100 m of measured length.

The formula is as followed.

$(\text{Actual value of sliver} - \text{set value of sliver}) \times 100 / \text{divided by set value of sliver}$.

If the sliver is too light, the A% 100 m value is negative.

7.7.18 Data Screen 1.3.3.2 Q-Data Actual Values Card CV%..CV100

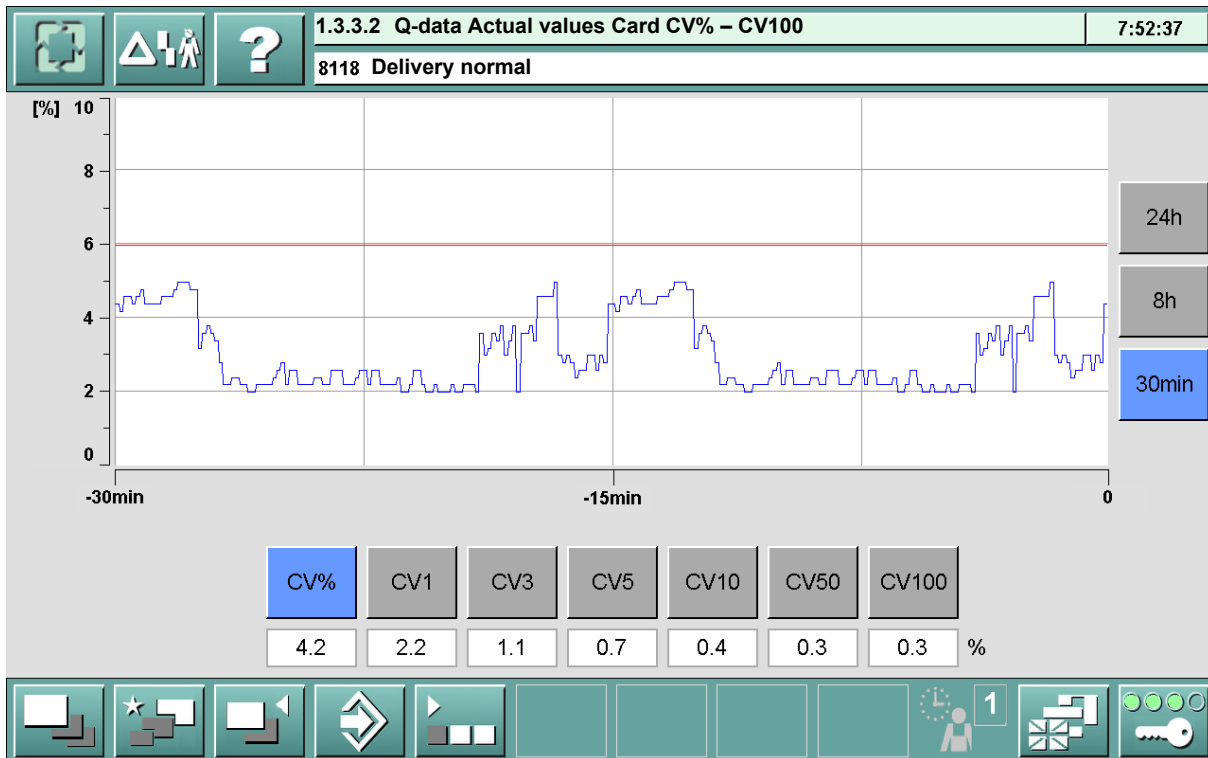


Figure 138: Data screen 1.3.3.2 Q-data actual values card CV%...CV100

This data screen shows the actual values for CV% and CV1...100.

Time Interval for the Diagram

The time interval 24 h / 8 h / 30 min can be changed without any loss of data resulting from the changeover.

A diagram is shown with the selected time interval.

CV%-CV100:

Selectable cut length, for which a figure is displayed.

Enter the reference length in data screen 2.2.2.2 **Q-data Nominal values Card CV%**.

CV Values:

Current weight variations of the card sliver (in %) over the programmable reference length in meters.

7.7.19 Data Screen 1.3.3.3 Q-Data Actual Values Card Spectrogram

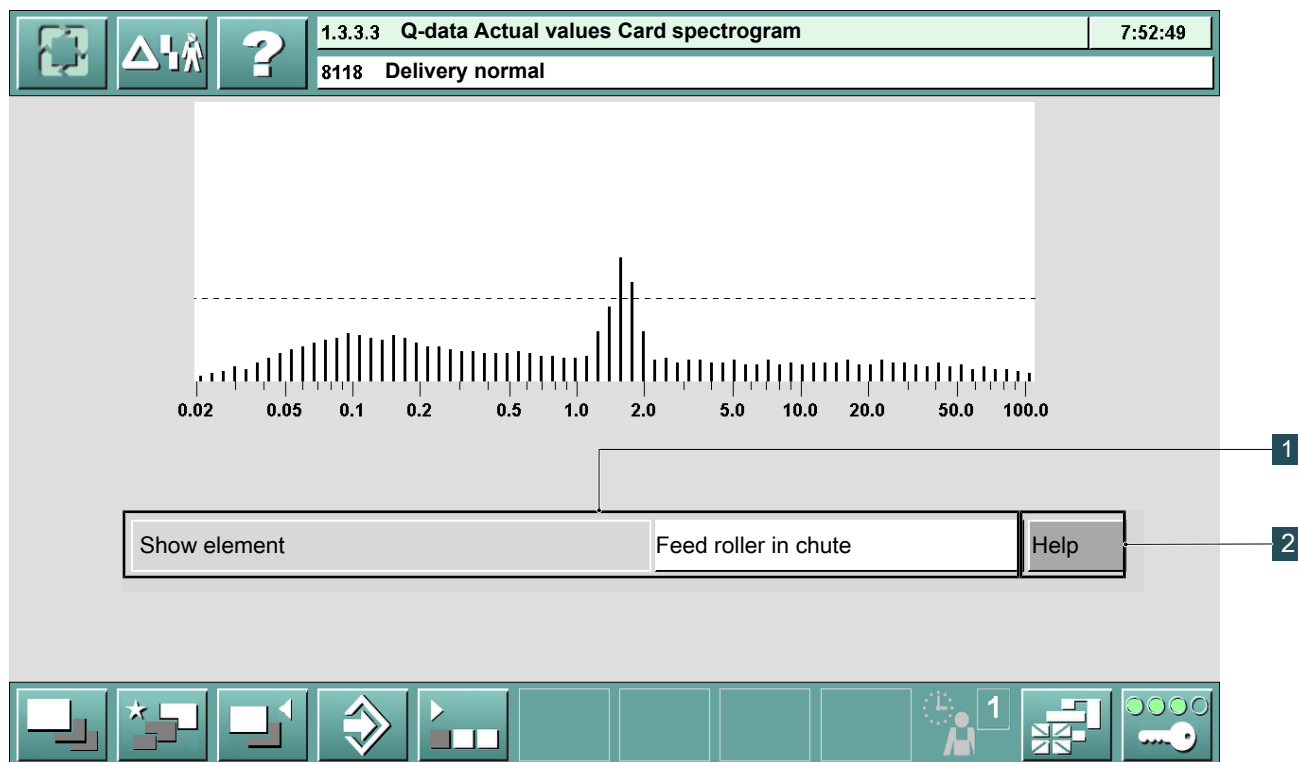


Figure 139: Data screen 1.3.3.3 Q-data actual values card spectrogram

This data screen shows the spectrogram which has the wavelengths ranging from 0.02m to 100m. The wavelengths measured in yards must be converted accordingly ($0.914 \times X$ m).

For example: The wavelengths measured in yards:

$$0.914 \times 0.1 \text{ m} = 0.0914 \text{ yards}$$

Peak in Spectrogram

The field **1** shows the possible cause of the peak in spectrogram.

When the user pushes the Help button **2**, in an additional screen, the machine parts which can cause errors are shown.

7.7.20 Data Screen 1.3.3.4 Quality, Actual Values Card Slubs

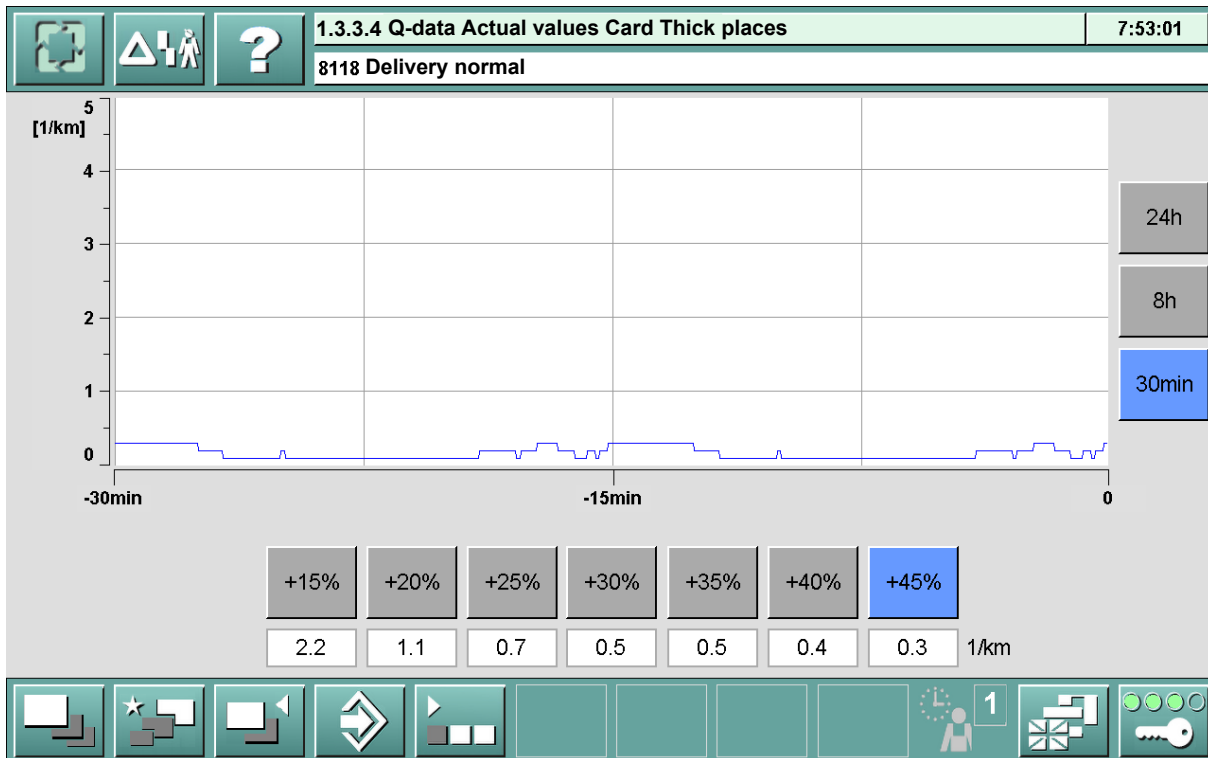


Figure 140: Data screen 1.3.3.4 quality, actual values card slubs

This data screen shows the number of slubs in the produced sliver.

At low sliver weight, higher deflections will be shown. However, these deflections are not faults in the sliver because they are caused naturally.

At low sliver weight, the user is necessary to select a higher class $> \pm 20\%$.

Time Base for the Diagram

The time base (24h / 8h / 30min) can be changed without any loss of the data.

A diagram is shown with the selected time base.

Range +15% - +45%

This field shows a selectable class for which a figure is shown.

7.7.21 Data Screen 1.3.4.1 Q-Data Actual Values Card Feed CV

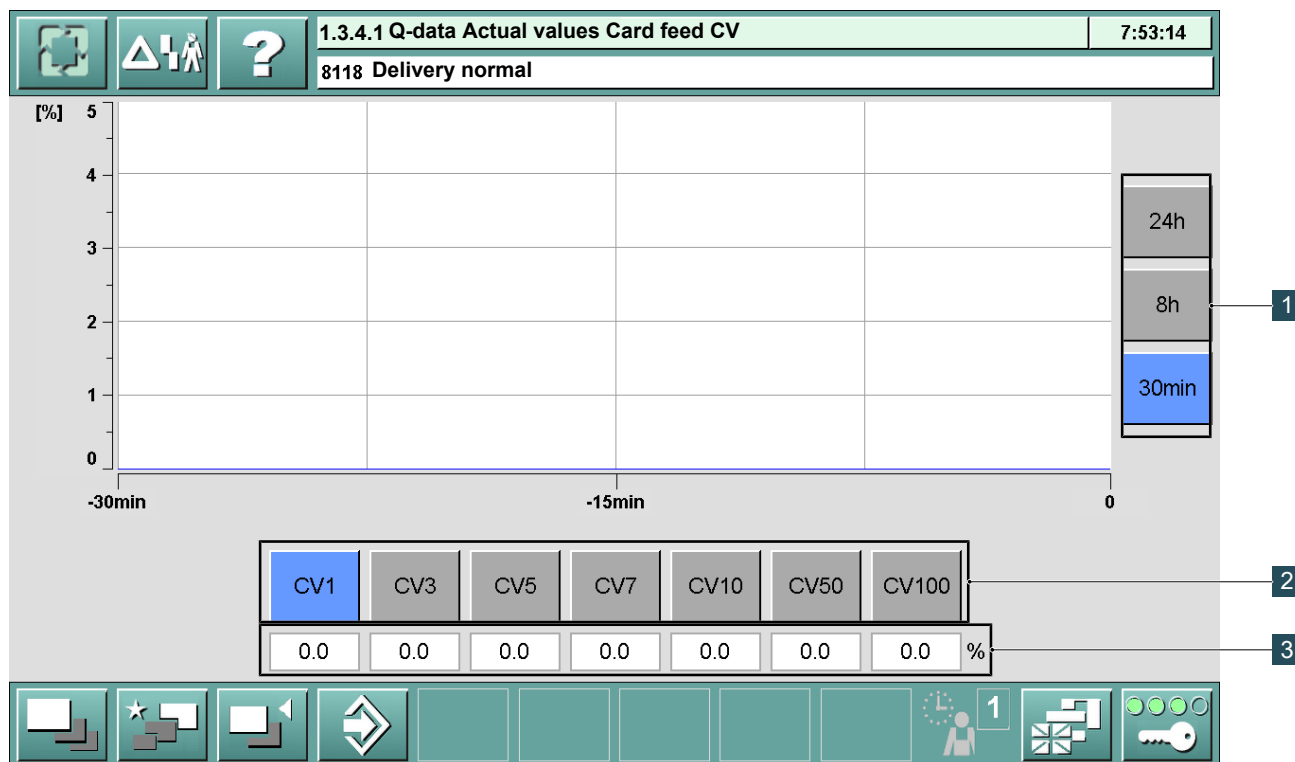


Figure 141: Data screen 1.3.4.1 Q-data actual values card feed CV

This data screen shows a graphic presentation with the entered meters.

Time Base for the Diagram

The time base in field **1** (24h / 8h / 30min) can be changed without any loss of data.

A diagram is shown with the selected time base.

Sorting Length

In the field **2**, the user can determine the cut length of the fed-in batt.

Example of the calculation of CV 100:

100 divided by the total drafting = meters of the incoming batt

Coefficients Variation

The field **3** shows the coefficients of the variation of the incoming batt.

7.7.22 Data Screen 1.4.1 Alarms / Warnings



1.4.1 Alarms/warnings

8042 Delivery normal

16:47:38

No.	Date/Time	Event
5308	10/31/19 16:24:47	Prod. can missing, rod switch fault S11
3072	10/31/19 16:20:35	Chute opening roller overheated M42
3152	10/31/19 16:20:18	MPS cylinder/licker-in Q1 Q13
7160	10/31/19 09:08:37	IGS-top grinding force too high
7024	10/31/19 09:08:37	Reduce chute `batt weight` 2.3.1.4



2



Figure 142: Data screen 1.4.1 alarms / warnings

The data screen shows the alarms, warning messages, and maintenance messages which are active at the machine at the moment.

The messages shown in chronological sequence with date and time of occurrence.

Help



Figure 143: Help key

The user can tap the **Help key** to get the troubleshooting for the selected message.

Filter the Events



Figure 144: Filter key

The user can tap the **Filter key** to show the events as followed.

Icon	Meaning
	No filter, show all.
	Only show alarms messages.
	Only show warning messages.
	Only show maintenance warning messages.

7.7.23 Data Screen 1.4.2 Event History

1.4.2 Event history 9:03:29

8118 Delivery normal

No.	Date/Time	Event
7416	10/25/19 07:34:53	Replace carbon brush of solid body detector infeed channel
8118	10/25/19 07:34:50	Delivery normal
8304	10/25/19 07:34:50	Slow operation button actuated
8110	10/25/19 07:34:48	Delivery creep speed
8304	10/25/19 07:34:48	Slow operation button actuated
9007	10/25/19 07:33:41	Rieter service logged out
8602	10/24/19 17:03:47	IGS-cl. grinding cycle completed
8002	10/24/19 17:03:09	Production ready
8022	10/24/19 17:02:50	Machine starting
8300	10/24/19 17:02:50	Start button actuated
8102	10/24/19 10:40:19	Ready to start
3306	10/24/19 10:40:18	IGS-classic not in park position B52
7102	10/24/19 10:40:16	IGS-classic grindstone position S53
7102	10/24/19 10:39:32	IGS-classic grindstone position S53
6102	10/24/19 10:39:17	IGS-top cycle aborted
6102	10/24/19 10:38:55	IGS-top cycle aborted

Figure 145: Data screen 1.4.2 event history

- 1

Mark of when the event ends
- 2

Mark of when the event occurs to the machine
- 3

Mark of when the fault is acknowledged by the user

This data screen shows the records of the events of the machine in the chronological sequence with date and the time of occurrence.

Two Types of the Entries

The 2 types of entries are as follows:

- Events: Faults, messages, warning messages, maintenance warnings, etc.
- Operator interventions: Operating activities.

Help



Figure 146: Help key

The user can tap the **Help key** to get the troubleshooting for the selected message.

Filter the Events



Figure 147: Filter key

The user can tap the **Filter key** to show the events as followed.

Icon	Meaning
	No filter, show all.
	Only show alarms messages.
	Only show warning messages.

Icon	Meaning
	Only show maintenance warning messages.
	Only show info messages.

7.7.24 Data Screen 1.4.3 Value Changes History





1.4.3 Value changes history 9:18:49

8118 Delivery normal

Date/Time	Parameter	
31.10.2019 10:21:02	Automatic acceleration Yes -> No, Maintenance	(2.3.1.1) 
31.10.2019 10:20:11	Automatic acceleration No -> Yes, Maintenance	(2.3.1.1) 
30.10.2019 8:37:00	Operating mode Test mode -> Service mode, Maintenance	(4.1.5)
30.10.2019 8:36:47	Operating mode Automatic mode -> Test mode, Maintenance	(4.1.5)
29.10.2019 15:14:18	Operating mode Service mode -> Automatic mode, Maintenance	(4.1.5)
29.10.2019 15:09:01	Correct pressure in chute No function -> Fed batt is too light, increase pressure	(2.3.1.4)
29.10.2019 15:08:19	Operating mode Test mode -> Service mode, Maintenance	(4.1.5)
29.10.2019 15:08:16	Operating mode Test mode -> Test mode, Maintenance	(4.1.5) 
29.10.2019 14:49:08	Operating mode Service mode -> Test mode, Maintenance	(4.1.5) 














Figure 148: Data screen 1.4.3 value changes history

This data screen shows the history of the value changes, including the date and time of the value change and the type of the parameter.

7.7.25 Data Screen 1.4.4 Maintenance Logbook

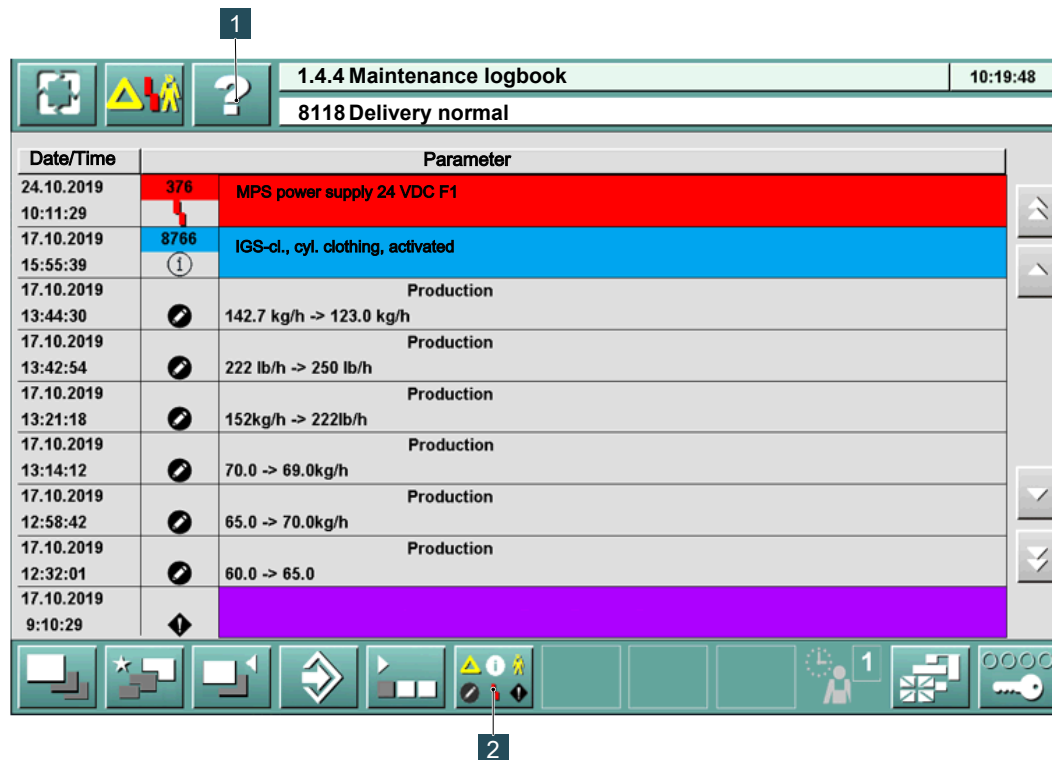


Figure 149: Data screen 1.4.4 maintenance logbook

This data screen shows the events which are related to the lifetime of the clothing. The events shown in chronological sequence with code, message text summary, data / time of occurrence.

The user can tap the **Help key 1** to get the troubleshooting for the alarms message.

The user can tap the **Filter key 2** to show the events as followed.

Icon	Meaning
	No filter, show all.
	Only show alarms messages.
	Only show warning messages.

Icon	Meaning
	Only show maintenance warning messages.
	Only show info messages.
	Only show history of value changes that related to clothing life time
	Only show software error messages

7.7.26 Data Screen 1.4.5 Event Statistics

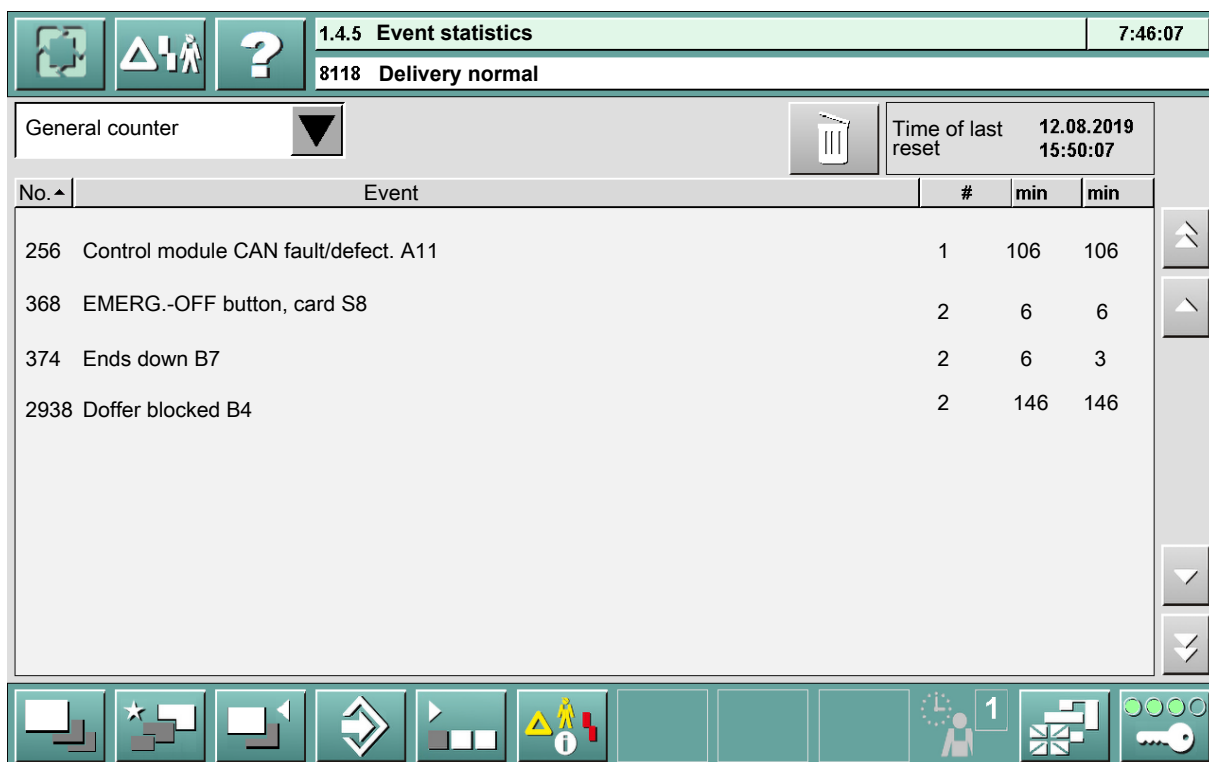


Figure 150: Data screen 1.4.5 event statistics

This data screen shows the events that have occurred, including the event number, type of the event, and the duration.

In this data screen the user can clearly know the frequency and the duration of the event in the selected shift.

The user can tap the icon of the trash to delete the event statistics in the selected shift.

7.7.27 Data Screen 1.4.6.2 Exception Statistic D95K

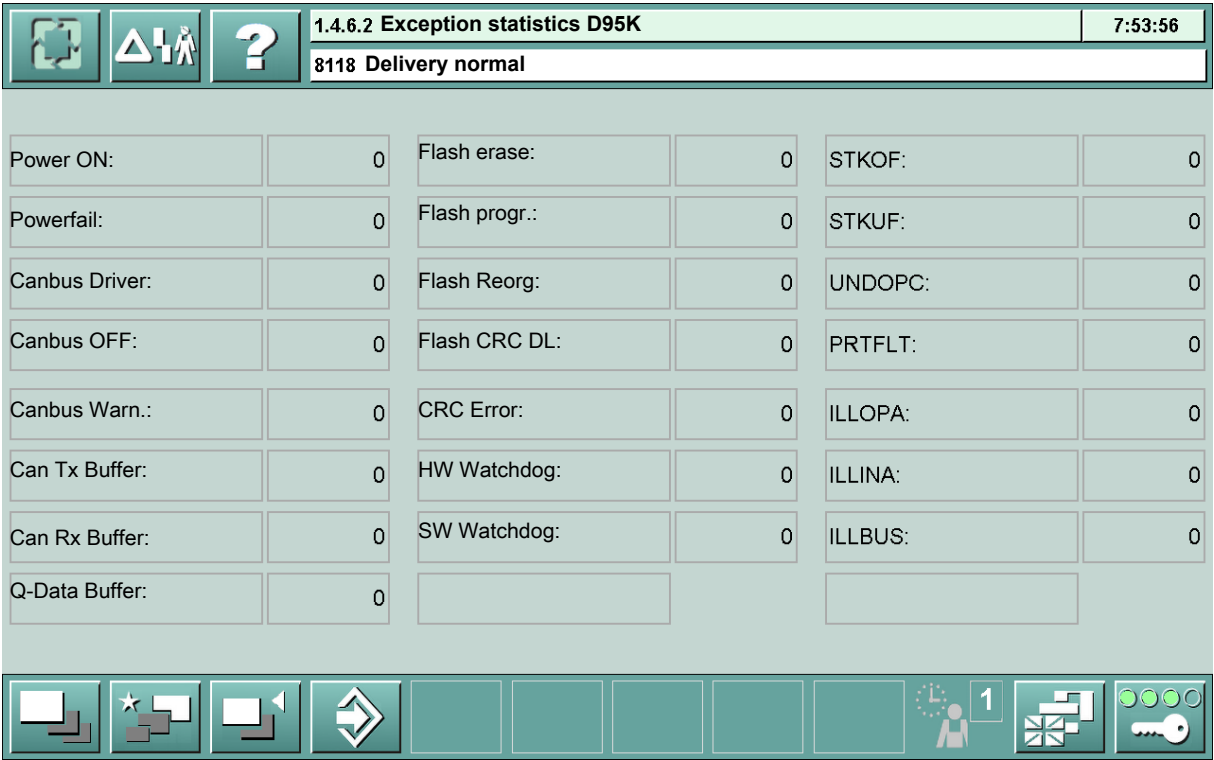


Figure 151: Data screen 1.4.6.2 exception statistics D95K

This data screen shows the list of exception error counters of the D95K module.

7.7.28 Data Screen 1.4.7 Logbook Viewer



Figure 152: Data screen 1.4.7 Logbook viewer

This data screen is only used by Rieter service personal. When the machine has serious problem, the user can go to this data screen and send the screenshot to Rieter development for support.



Figure 153: Refresh button

The **refresh button** is used to refresh the list.



Figure 154: Logbook selection button

The user can use the **logbook selection button** to select the different kind of the logbook.

7.7.29 Data Screen 1.5.1.1 Basic Data

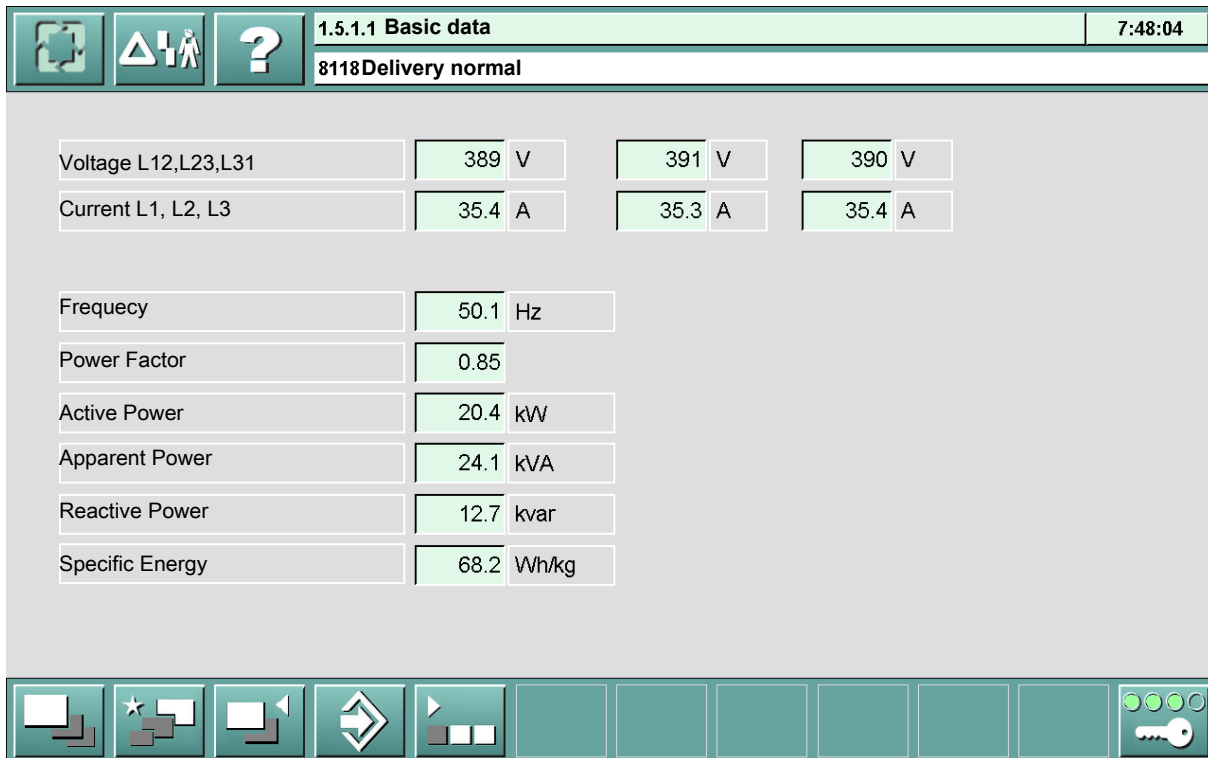


Figure 155: Data screen 1.5.1.1 basic data

This data screen is only for the machine which has the energy monitoring equipment.

This data screen shows the basic data of the electrical energy of the machine.

Specific Energy

The value shows the energy per kilogram of sliver.

7.7.30 Data Screen 1.5.1.2 Summarized Data

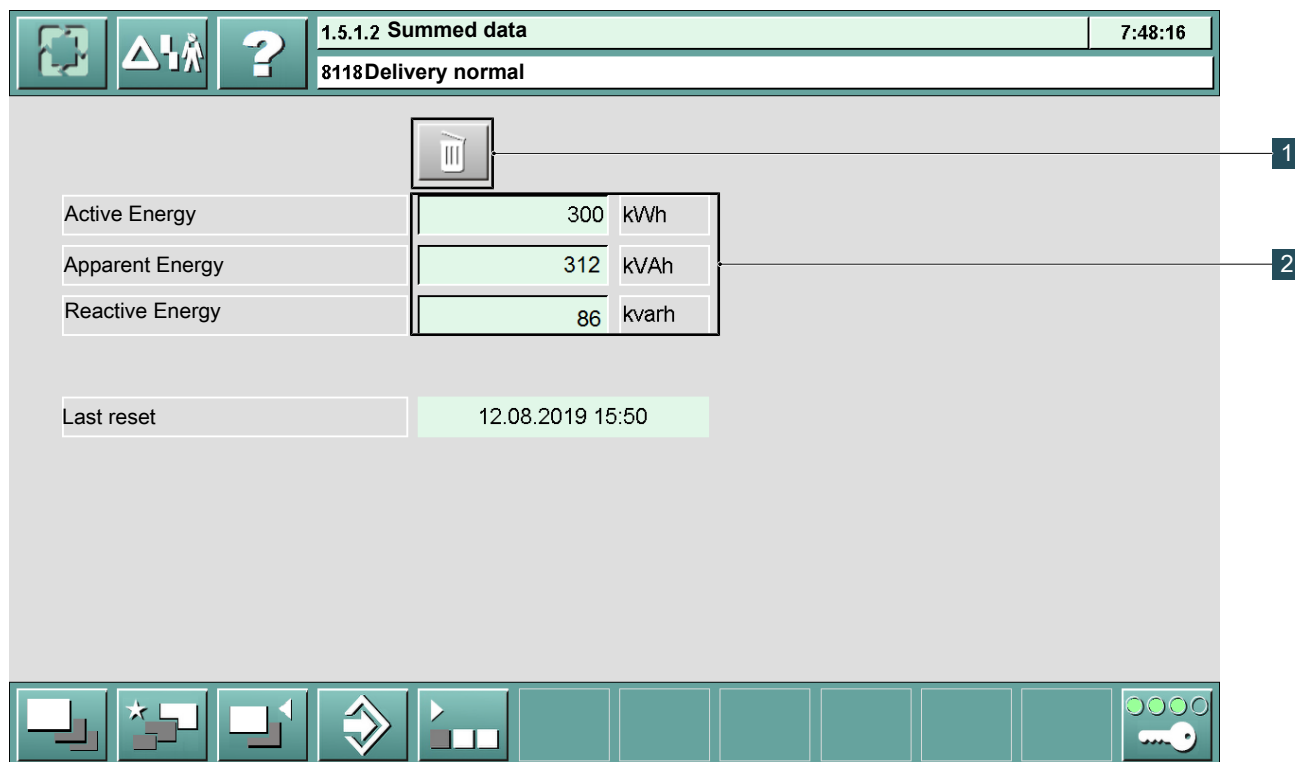


Figure 156: Data screen 1.5.1.2 summarized data

This data screen is only for the machine which has the energy monitoring equipment

This data screen shows the time-based data of the electrical energy of the machine.

The user can tap the trash bin icon **1** to delete all the records of the field **2**.

The field of **Last reset** shows the date that the records in the field **2** was deleted.

7.7.31 Data Screen 1.5.1.3 Graph

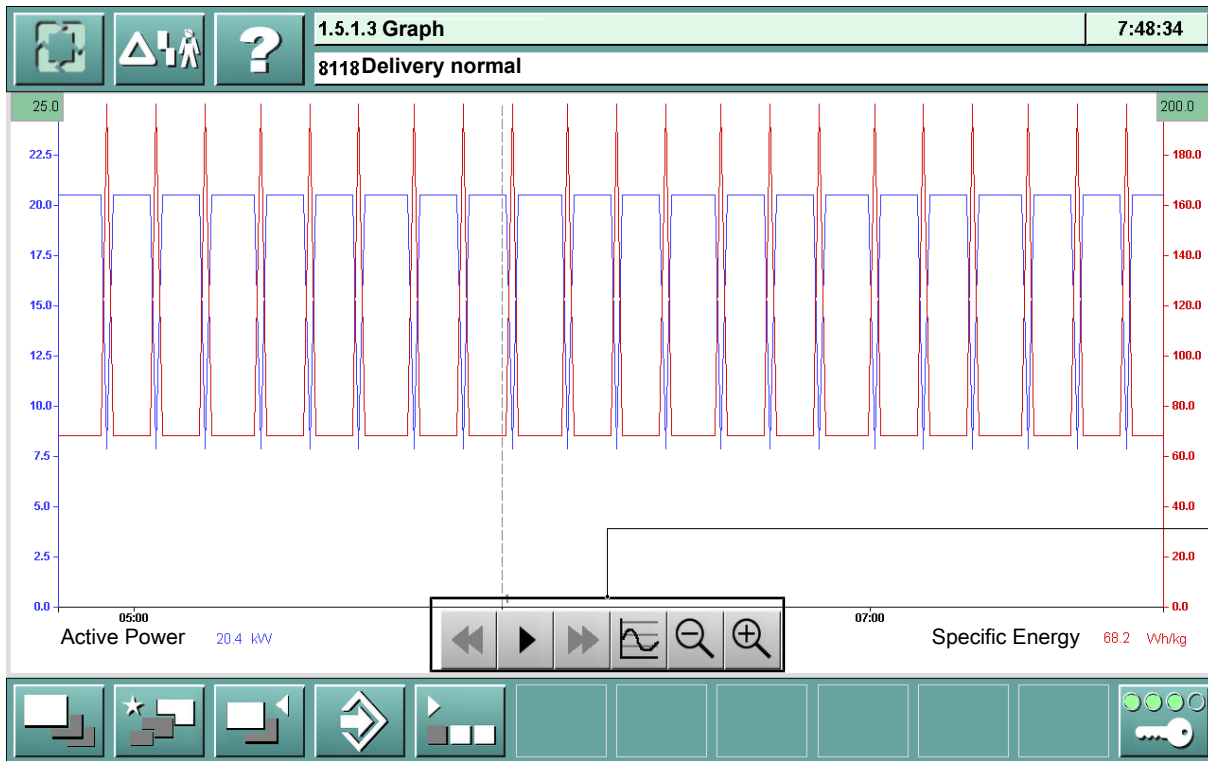


Figure 157: Data screen 1.5.1.3 graph

This data screen is only for the machine which has the energy monitoring equipment.

Blue Line

The blue line indicates the active power.

Red Line

The red line indicates the specific energy.

Tools

The tools in the field **1** is used to adjust the looks of the graph such as magnify the graph, zoom the graph, or show the grid of the graph.

7.7.32 Data Screen 1.5.1.4 Shift History

1.5.1.4 Shift history					7:48:46
8118 Delivery normal					
Shift	Start time	Total	Wh/kg	kWh	
1	13.08.2019 06:00	08:48	201	110136.7	
3	12.08.2019 22:00	08:00	251	161161.9	
2	12.08.2019 15:51	06:09	215	116101.6	
1	12.08.2019 15:50	00:00	0.0	0.0	

Figure 158: Data screen 1.5.1.4 shift history

This data screen is only for the machine which has the energy monitoring equipment.

This data screen shows the shift number, the shift starts time, the time duration of the shift and the energy consumption.

7.7.33 Data Screen 1.6.1.1 Information Freq. Converter

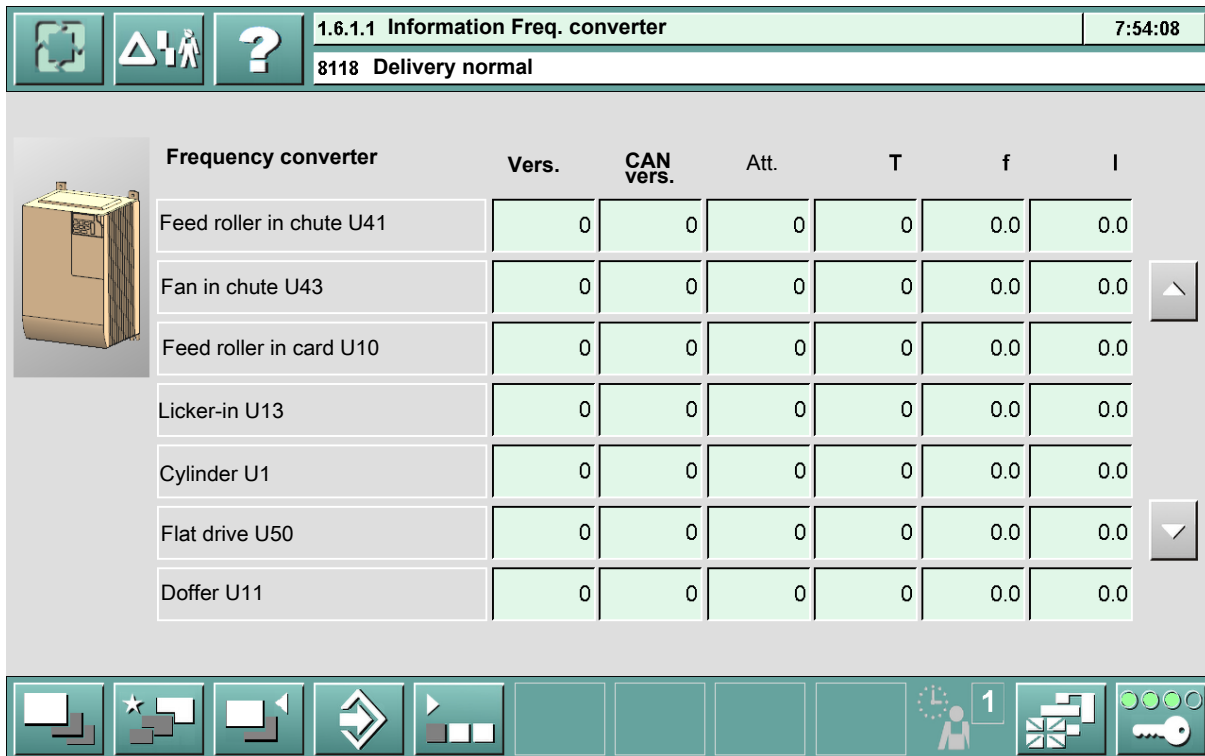


Figure 159: Data screen 1.6.1.1 information freq. converter

This data screen shows the information related to the frequency converter and the software release of different modules.

Frequency converter

This column shows the frequency converter of the corresponding machine part.

Vers.

This column shows the software version of the corresponding frequency converter.

CAN vers.

This column shows the software version of the CAN adapter for the corresponding frequency converter.

Att.

This column shows the protocol repetitions on the CAN bus.

T

This column shows the temperature (in degrees Celsius) of the heat sinks of the frequency converter.

f

This column shows the target frequency (in Hz) of the frequency converters.

I

This column shows the output current (in ampere) of the frequency converter.

7.7.34 Data Screen 1.6.1.2 CAN Slaves

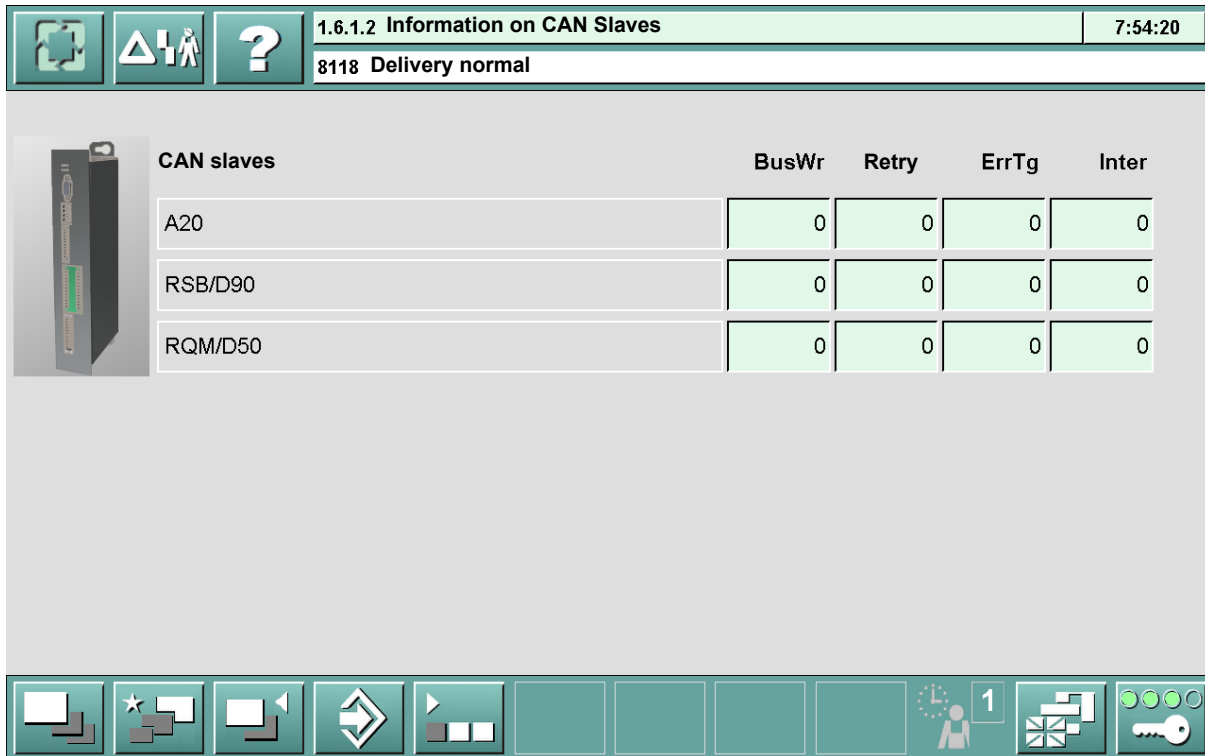


Figure 160: Data screen 1.6.1.2 information CAN slaves

To show this data screen, the condition that followed are necessary:

- The password level 3

This data screen shows the details of the CAN nodes.

CAN slaves

The overview of the information related to the modules that are attached to the CAN bus.

7.7.35 Data Screen 1.6.1.4 Overview Digital Inputs

Module: A31

1.6.1.4 I/O overview 7:47:16

8118 Delivery normal

Type: X20DIF371

Signal	State
B2	0
Red. prod.	0
	1
S10	0
F1	1
S8	0
Q10, Q14	1
Q12	1

State	Signal
0	B8
0	K23
0	S41
1	Blowr. rdy
0	All MPS
1	Q41
1	Q1, Q13
1	S18

Figure 161: Data screen 1.6.1.4 overview digital inputs

This data screen shows the inputs or outputs of the selected module during the production operation.

The user taps the field **1** to select the module that conditions of the individual inputs is necessary to be shown.

The meaning for the values of each input or output are as follows:

- The status 0 means low (no voltage present).
- The status 1 means high (voltage present).

7.7.36 Data Screen 1.6.1.5 I/O Overview D95K

Group: X3 (speed sens.)

Signal	State
B1	0
B9	0
B3	0
B2 RSB	0
B44	0

PPV1 PPV2 PPV3 PPV4 PPV5

State	Signal
0	B4
0	
0	B11
0	
0	

PPV6 PPV7 PPV8

Figure 162: Data screen 1.6.1.5 I/O overview D95K

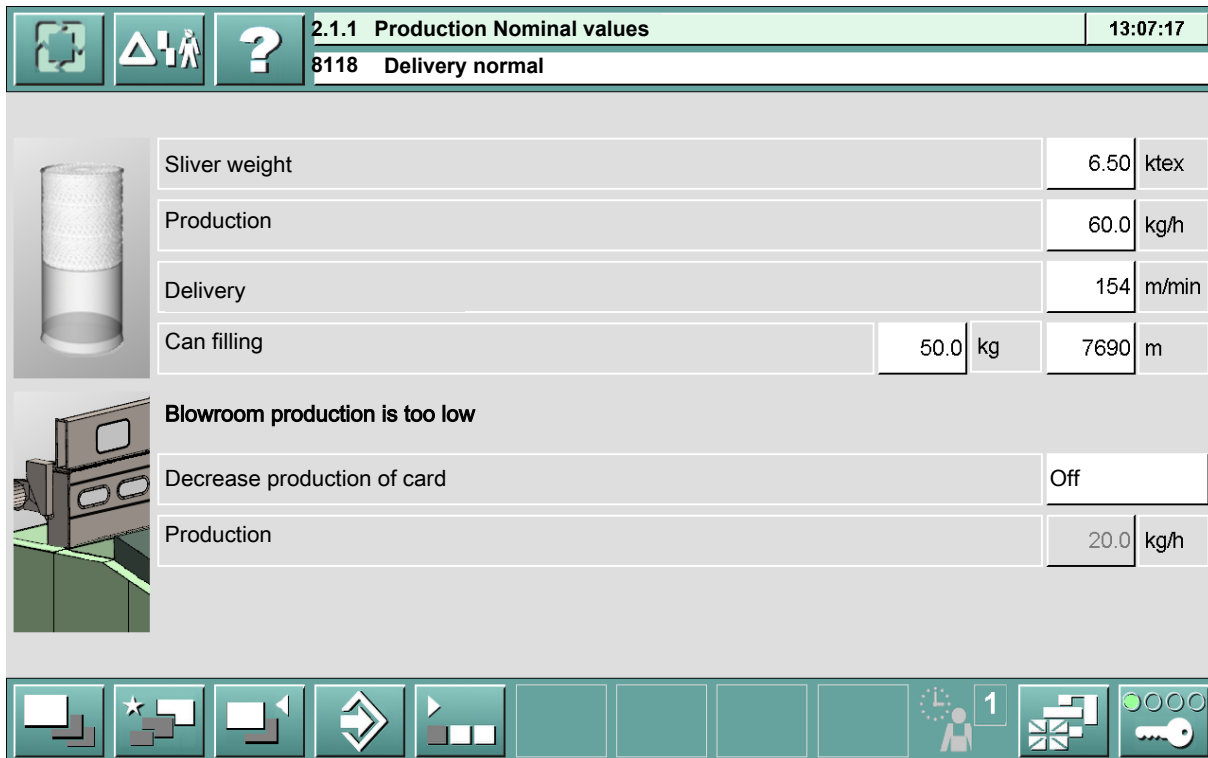
This data screen shows the inputs or outputs of the selected connector during the production operation.

The user taps the field **1** to select the connector that conditions of the individual inputs is necessary to be shown.

The meaning for the values of each input or output are as follows:

- The status 0 means low (no voltage present).
- The status 1 means high (voltage present).

7.7.37 Data Screen 2.1.1 Production Setpoints



2.1.1 Production Nominal values		13:07:17	
8118 Delivery normal			
Sliver weight	6.50	ktex	
Production	60.0	kg/h	
Delivery	154	m/min	
Can filling	50.0	kg	7690 m
Blowroom production is too low			
Decrease production of card	Off		
Production	20.0	kg/h	

Figure 163: Data screen 2.1.1 production setpoints

The user sets the production values in the data screen 2.1.1.

The user taps the text field to enter the target value in the text field.

The workable range is shown on the top of the numeric keypad. A warning message is shown when the entered value is out of the workable range.

Sliver weight

Tap the field to enter the target sliver weight.

Production and Delivery

The production and the delivery speed are interacted.

If the user enters the target production value, the delivery speed value is calculated and is shown in the field **Delivery**.

If the user enters the target delivery speed, the production value is calculated and is shown in the field **Production**.

Can filling

The weight of the card sliver and the length of card sliver are interacted.

If the user enters the target weight of the card sliver, the sliver length is calculated and shown in the second field of **Can filling**.

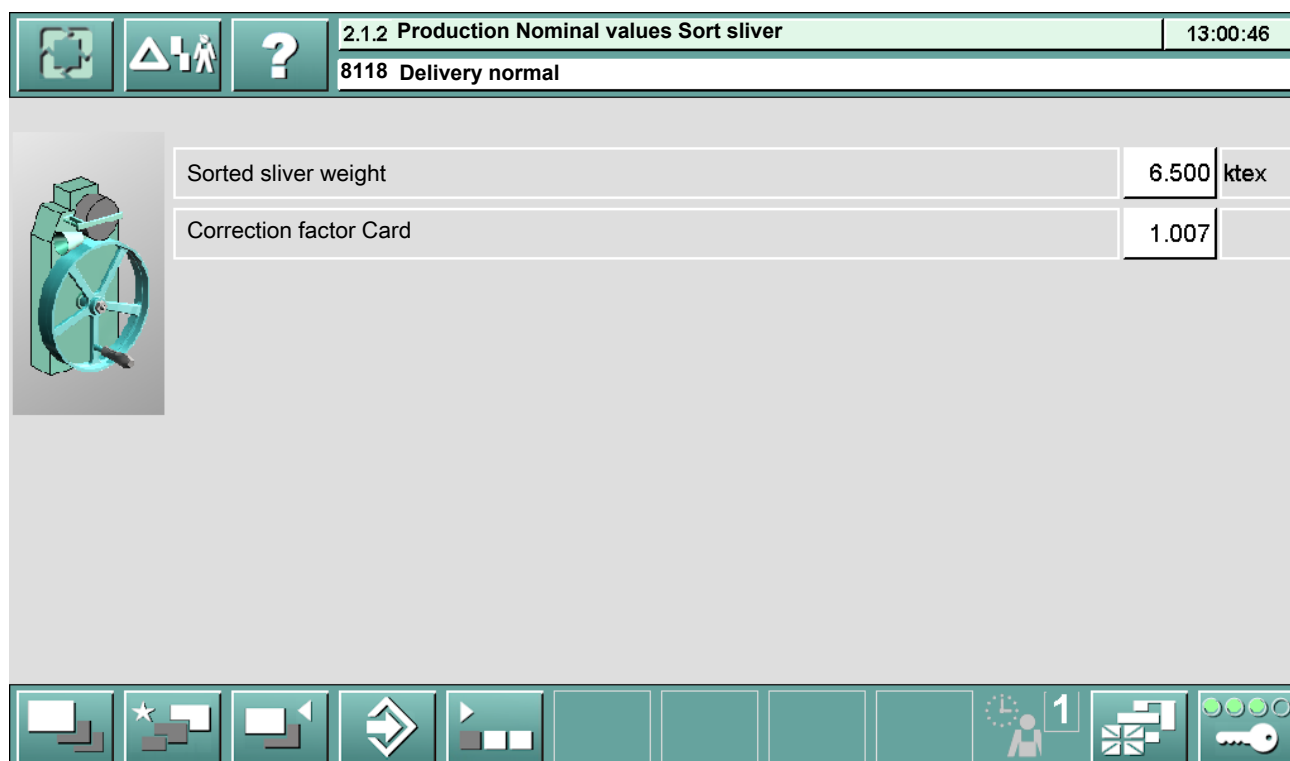
If the user enters the target length of the card sliver, the sliver weight is calculated and shown in the first field of **Can filling** .

Blowroom production is too low

This function is an option for the card machine.

When the UNIcontrol system sends the signal that blowroom production is too low to the card, the card machine decreases the production to the given value.

7.7.38 Data Screen 2.1.2 Sort Sliver



2.1.2 Production Nominal values Sort sliver		13:00:46
8118 Delivery normal		
Sorted sliver weight	6.500	ktex
Correction factor Card	1.007	

Figure 164: Data screen 2.1.2 sort sliver

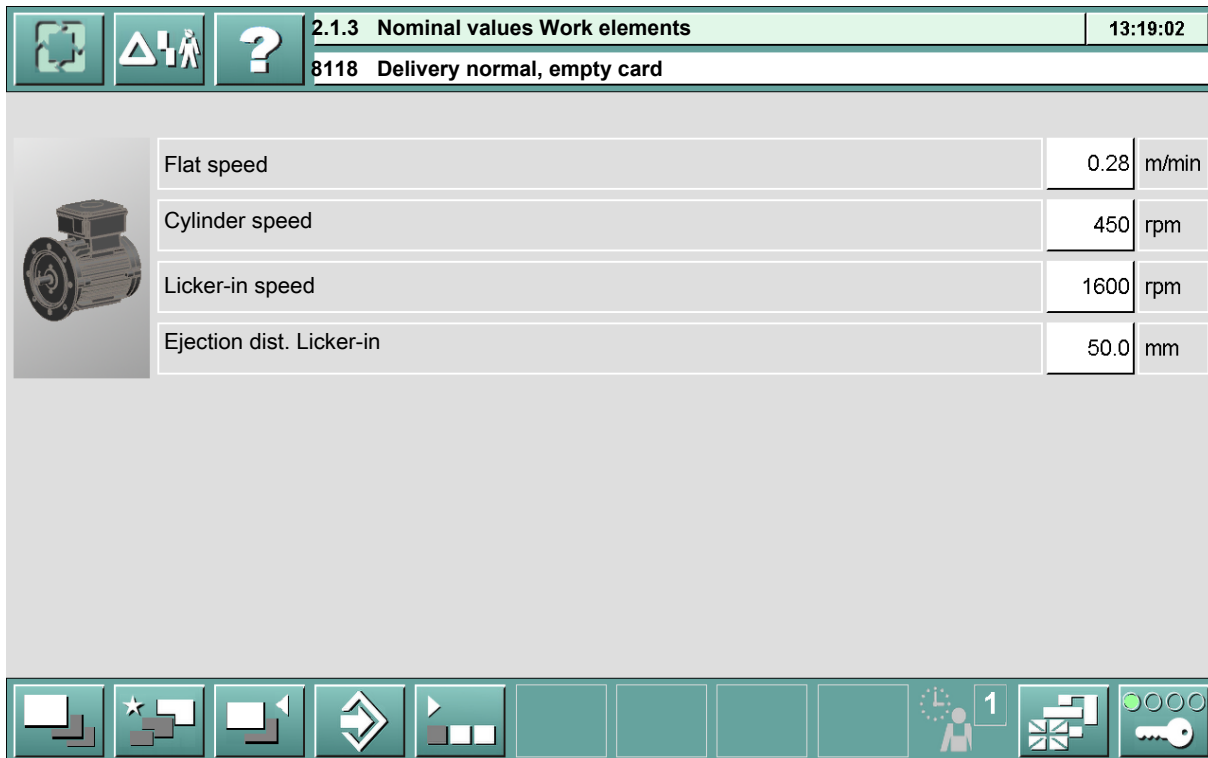
The data screen 2.1.2 is used to correct the sliver weight.

The user enters the measured sliver weight of the produced sliver in the field **Sorted sliver weight** .

If the measured sliver weight is different from the target value:

- The machine calculates the correction factor automatically and shows the correction factor in the field **Correction factor Card** .
- The machine uses the calculated correction factor to correct the sliver weight automatically.

7.7.39 Data Screen 2.1.3 Nominal Values Working Elements



2.1.3 Nominal values Work elements		13:19:02
8118 Delivery normal, empty card		
Flat speed	0.28	m/min
Cylinder speed	450	rpm
Licker-in speed	1600	rpm
Ejection dist. Licker-in	50.0	mm

Figure 165: Data screen 2.1.3 nominal values working elements

The data screen 2.1.3 is used to set the speed of the elements that follows:

- Flats
- Cylinder
- Licker-in

The user can set the ejection distance of the mote knife of the licker-in.

The user taps the text field to enter the value.

The workable range is shown on the top of the numeric keypad.

7.7.40 Data Screen 2.1.5.1 Set Values Card Extended

2.1.5.1 Production Extended nominal values Card		7:55:38	
8118 Delivery normal			
MtrVregBa	Transient	MtrBregKvz	8750
MtrVregTn	650	MtrBregTn	4992
MtrVregKvz	7200	MtrBregKp	46
MtrVregKp	3000		
		MtrWaSgaKp	1000
		MtrWaSgaWspw	26

Figure 166: Data screen 2.1.5.1 set values card extended

This data screen is only used for Rieter development.

7.7.41 Data Screen 2.1.5.2 Set Values Chute Extended

2.1.5.2 Production Extended nominal values Chute

7:55:49

8118 Delivery normal

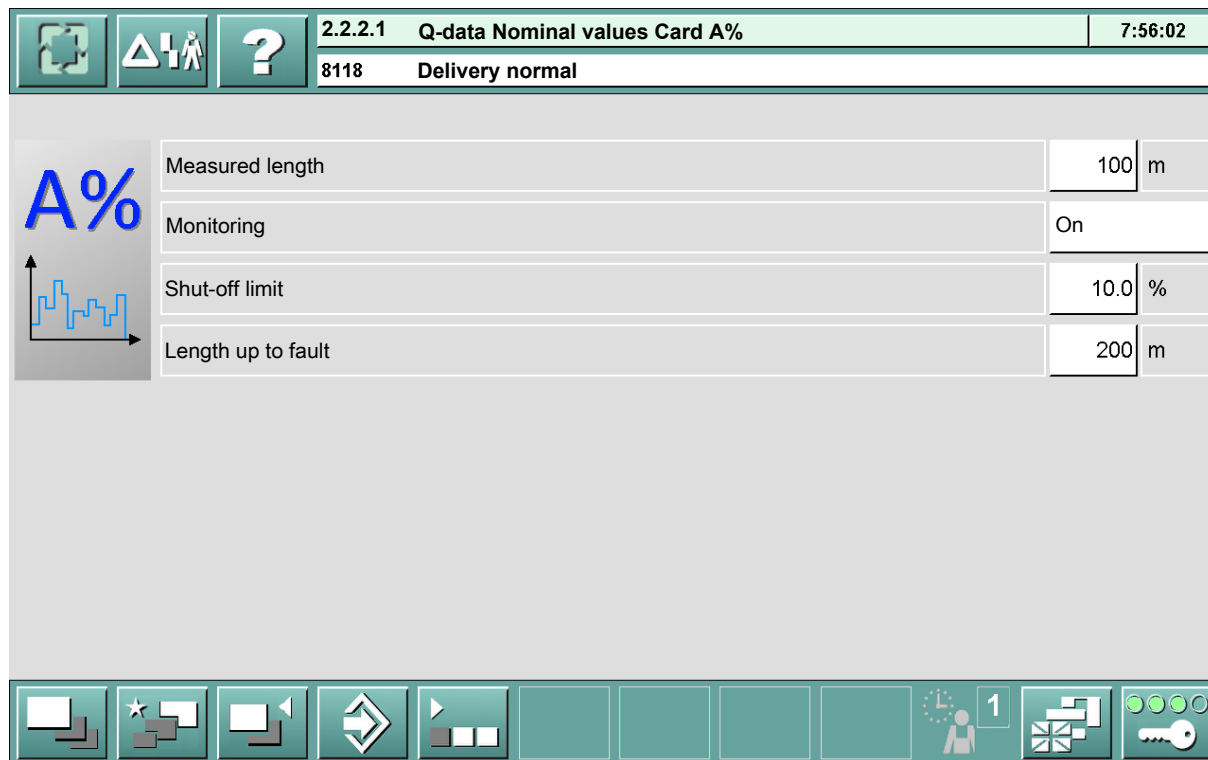
SchSpwKscf	750	SchRegTstKsc	500	
SchSpwDelNor	80	SchRegTstKi	40	
SchSpwDelRed	50	SchRegDruTv	600	
SchRegDruKp	200	SchRegDruT	20	

1

Figure 167: Data screen 2.1.5.2 set values chute extended

This data screen is only used for Rieter development.

7.7.42 Data Screen 2.2.2.1 Q-data Set Values Card A%



The screenshot shows a data screen with a title bar at the top containing icons for back, forward, and help, followed by the screen identifier '2.2.2.1 Q-data Nominal values Card A%' and a timestamp '7:56:02'. Below the title bar, the screen number '8118' and status 'Delivery normal' are displayed. The main area features a large 'A%' label next to a line graph showing fluctuations. To the right of the graph is a table of settings:

Measured length	100	m
Monitoring	On	
Shut-off limit	10.0	%
Length up to fault	200	m

At the bottom of the screen is a toolbar with various icons for navigation and system functions.

Figure 168: Data screen 2.2.2.1 Q-data set values card A%

To change the values in this data screen, the condition that follows is necessary:

- Password level 1

In this data screen, the user can do the adjustments of the integrated card sliver monitoring function (*Adjusting the Shut-Off Limit A% ▶ 400*).

Measured length

In this field, the user can select the measured length of the card sliver to calculate the A%.

Monitoring

The user can select the **On** or **Off** to start or stop the monitoring function.

Shut-off limit

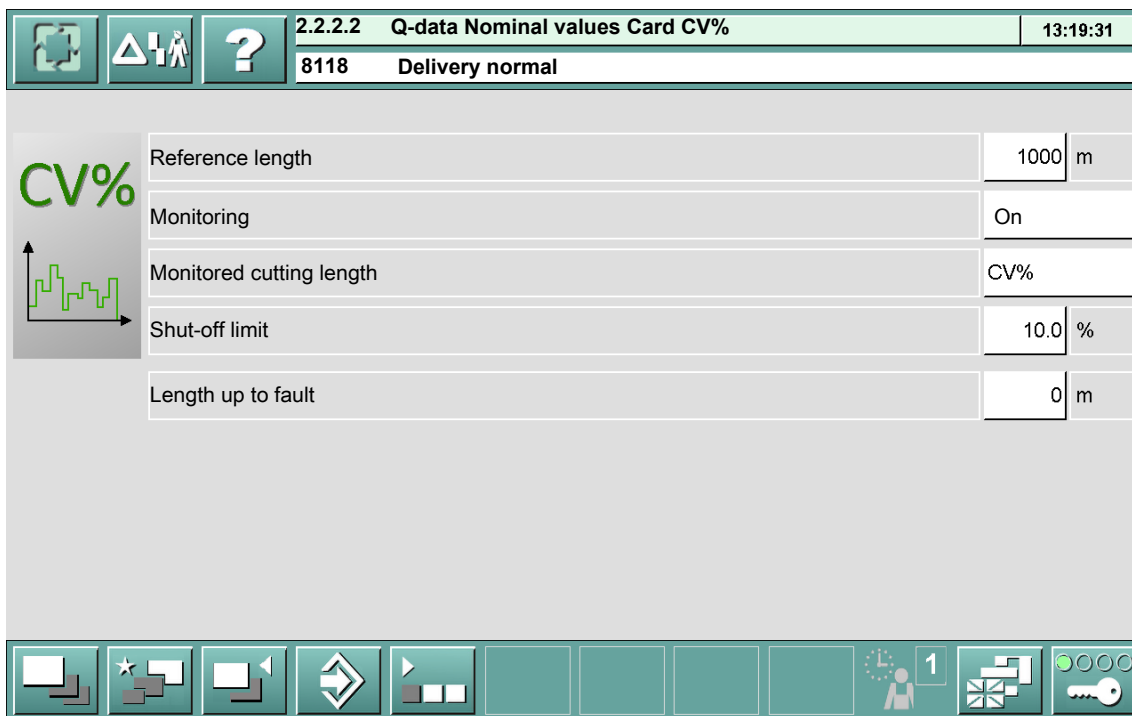
The limit of A% for the shut off.

Length up to fault

When the A% value reaches the set value in the field **Shut-off limit**, the machine keep producing the card sliver according to the conditions that follow.

- If the fault exits until the produced sliver reaches the length in the field **Length up to fault**, the machine stops.
- If the fault disappears before the produced sliver reaches the length in the field **Length up to fault**, the machine keep production.

7.7.43 Data Screen 2.2.2.2 Q-data Set Values Card CV%



The screenshot shows the '2.2.2.2 Q-data Nominal values Card CV%' screen. At the top, there's a header bar with a title and a timestamp '13:19:31'. Below the header, a status bar shows '8118 Delivery normal'. The main area contains several input fields for configuration:

Reference length	1000 m
Monitoring	On
Monitored cutting length	CV%
Shut-off limit	10.0 %
Length up to fault	0 m

On the left side of the main area, there is a green 'CV%' label and a small line graph showing fluctuations. At the bottom, there is a toolbar with various icons for navigation and system functions.

Figure 169: Data screen 2.2.2.2 Q-data set values card CV%

To change the value in this data screen, the condition that follows is necessary;

- Password level 1

In this data screen, the user can do the adjustment for the integrated card sliver monitoring function (See *Adjusting the Shut-Off Limit for the Coefficient CV %* ▶ 401).

Reference length

In this field, the user can select the reference length of the card sliver to calculate the CV%.

Monitoring

The user can select the **On** or **Off** to start or stop the monitoring function.

Monitored cutting length

In this field, the user can select the cut length.

Shut-off limit

The limit of CV% for shut off.

Length up to fault

When the CV% value reaches the limit in the field **Shut-off limit**, the machine keep producing the card sliver according to the conditions that follow.

- If the fault exists until the produced sliver reaches the length in the field **Length up to fault**, the machine stops.
- If the fault disappears before the produced sliver reaches the length in the field **Length up to fault**, the machine keep production.

7.7.44 Data Screen 2.2.2.3 Q-data Nominal Val. Corrected CV%

The screenshot shows the '2.2.2.3 Q-data Nominal val. Corrected CV%' data screen. At the top, there is a title bar with a green background and a timer showing '7:56:25'. Below the title bar, the status '8118 Delivery normal' is displayed. The main area contains several input fields and icons. On the left, there is a green 'CV%' label and a small line graph icon. The input fields are: 'Correction factor for CV%' with a value of '1.40', 'Start correction of CV%' with a value of 'No', 'CV% measured at card' with a value of '0.0 %', 'CV% laboratory value' with a value of '0.0 %', and 'Can change' with a value of '400 m'. At the bottom, there is a row of icons including a document, a star, a magnifying glass, a double arrow, a bar chart, a clock, a person, a key, and a lock.

Figure 170: Data screen 2.2.2.3 Q-data nominal val. corrected CV%

To change the value in this data screen, the condition that follows is necessary:

- Password level 1

The CV% value is determined on the disc roller on the delivery of the card.

In this data screen, the CV% value determined by the card can be compared with the value measured in the laboratory.

Correction factor for CV%

If the software is changed, then this value can be re-entered.

Start correction of CV%

Starting the material withdrawal. See *Correcting of the CV % Values* ► 402

CV% measured at card

This field show the CV% value of the produced card sliver at the length of 400 m.

CV% laboratory value

Enter the value determined in the laboratory and confirm the entry.

Can change

If the CV% correction procedure has been started, this field shows the length to be produced until the can change.

7.7.45 Data Screen 2.2.2.4 Q-data Set Values Card Spectrogr.

2.2.2.4 Q-data Nominal values Card spectrogr.		7:56:37
8118 Delivery normal		
Interval length	800	m
Monitoring	Off	
Shut-off limit	2.5	
Length up to fault	1000	m

Figure 171: Data screen 2.2.2.4 Q-data set values card spectrogram.

To change the value in this data screen, the condition that follows is necessary:

- Password level 1

In this data screen, the user can do the adjustment for the integrated card sliver monitoring function (See *Adjusting the Shut-Off Limit for the Card Sliver Monitoring and the Spectrogram* ► 397).

Interval length

In this field, the user can select the interval length of the card sliver to calculate the spectrogram.

Monitoring

The user can select **On** or **Off** to start or stop the monitoring function.

Shut-off limit

The limit of card spectrogram for the shut-off.

Length up to fault

When the value of card spectrogram reaches the target value in the field **Shut-off limit**, the machine keeps producing the card sliver refer to the conditions that follows.

- If the fault exists until the produced sliver reaches the length in the field **Length up to fault**, the machine stops.
- If the fault disappears before the produced sliver reaches the length in the field **Length up to fault**, the machine keeps producing.

7.7.46 Data Screen 2.2.2.5 Q-data Set Values Card Slubs

2.2.2.5 Q-data Nominal values Card Thick places		7:56:49
8118 Delivery normal		
Reference length	1000	m
Monitoring	Off	
Monitored class	±45%	
Shut-off limit	5.0	1/km
Length up to fault	1000	m

Figure 172: Data screen 2.2.2.5 Q-data set values card slubs

To change the values in this data screen, the condition that follows is necessary:

- Password level 1

In this data screen, the user can do the adjustment for the integrated card sliver monitoring function.

Reference length

In this field, the user can enter the sliver length used for measuring the number of slubs.

See *Adjusting the Shut-Off Limit for the Card Sliver Monitoring* ► 398

Monitoring

The user can select **On** or **Off** to start or stop the monitoring function.

Monitored class

The user can select the class and then the selected class is monitored.

Shut-off limit

The limit of card slubs for the shut off.

See *Adjusting the Shut-Off Limit for the Card Sliver Monitoring* ► 398

Length up to fault

When the value of card slubs reaches the target value in the field **Shut-off limit**, the machine keeps producing the card sliver refer to the conditions that follows.

- If the fault exists until the produced sliver reaches the length in the field **Length up to fault**, the machine stops.
- If the fault disappears before the produced sliver reaches the length in the field **Length up to fault**, the machine keeps production.

See *Adjusting the Shut-Off Limit for the Card Sliver Monitoring* ► 398

7.7.47 Data Screen 2.3.1.1 Settings Card Delivery

2.3.1.1 Delivery unit settings		7:57:27
8118 Delivery normal		
Leveling of sliver weight	On	
Reset draft to default value	No	
Sliver weight during piecing-up	5.00	ktex
Compensation Fiber tuft	700	%
Sliver weight adaption during creep speed	Yes	
Compensation of sliver weight	20.00	%
Sliver weight deviation	0.0	%
Adjusted current waste	0.0	%
Automatic acceleration	No	
Min. delivery draft	1.25	
Eff. delivery draft	0.00	
Max. delivery draft	2.25	
Minimum time to stop doffer	0 s	

Figure 173: Data screen 2.3.1.1 settings card delivery

To change the values in this data screen, the condition that follows is necessary:

- Password level 1

The user can do the setting of the delivery of the card in this data screen.

Leveling of sliver weight

The user can select **On** or **Off** to start or stop the autoleveling system.

See *Doing the Configuration of the Delivery Unit* ▶ 277

Reset draft to default value

The user can select **Yes** to reset the delay of the autoleveler. The draft of the auto leveling system is reset to specified value.

See *Doing the Configuration of the Delivery Unit* ▶ 277

Sliver weight during piecing-up

The user can set the sliver weight of the card sliver which is produced during the piece-up.

Compensation Fiber tuft

When drawing in the card sliver, the speed of the feed roller is increased by the selected percentage factor, depending on the length of the downtime during 0 -1.5 seconds.

Select the setting so that the web is not disturbed by the clearer roller when starting the production.

The range of the compensation of the fibre fringe is from 100 – 550%.

Sliver weight adaption during creep speed

See *Adjusting the Sliver Weight in the Slow Speed* ▶ 337

Automatic acceleration

If the **Automatic acceleration** is set to **On**, the production switches automatically from creep speed to fast speed operation, as soon as the light sensor on the coiler is covered by the card sliver for at least 3 seconds.

Condition The **Automatic acceleration** is set to **On**.

1. Press the production button once.
⇒ Production starts in creep speed.
2. Guide the sliver into the coiler.
3. Press the production button again.

Result If the light sensor in the coiler is covered for at least 3 seconds, the production goes to high speed production

See *Doing the Configuration of the Delivery Unit* ▶ 277

Min. delivery draft

Draft in creep speed. The range for the user to change the value is between 1.15 and 1.4.

See *Setting the Draft for the Delivery Rollers and the Take-off Roller* ▶ 338

Eff. delivery draft

Draft at set speed. The user can't change delivery draft eff.

See *Setting the Draft for the Delivery Rollers and the Take-off Roller* ▶ 338

Max. delivery draft

Draft at maximum speed. The range for the user to change the value is between 1.4 and 2.4.

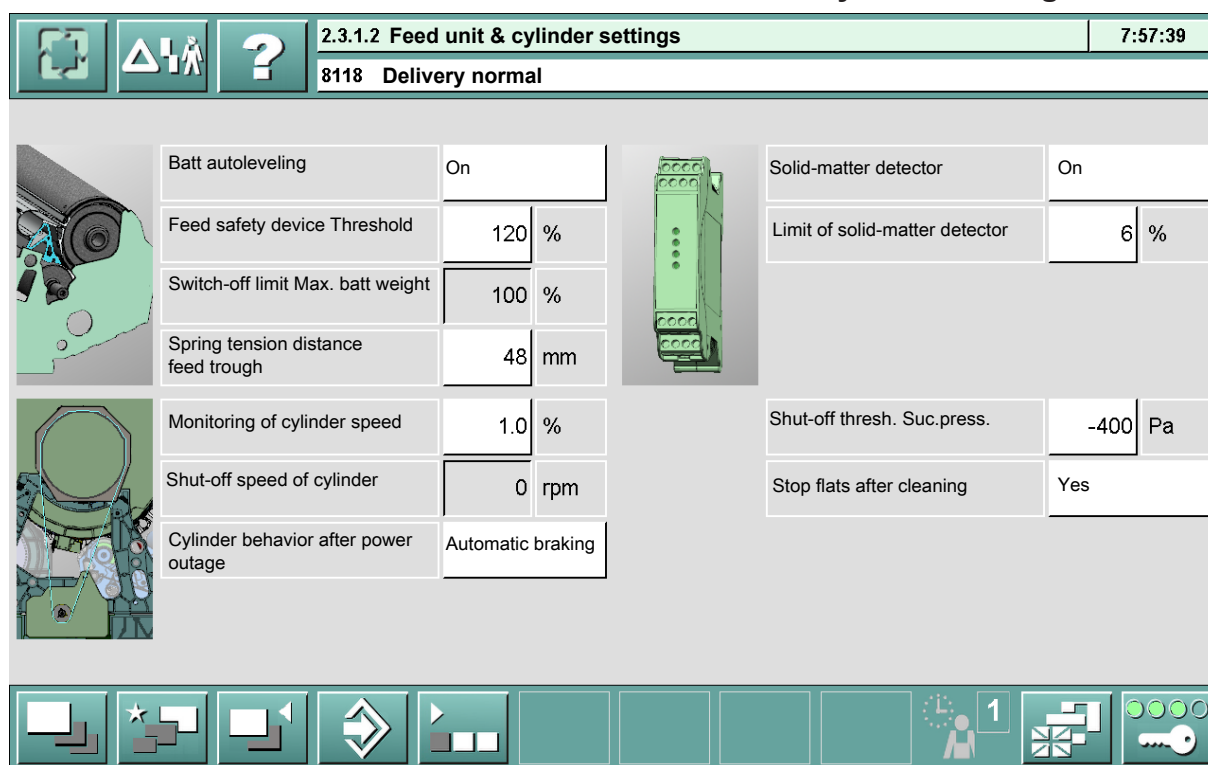
See *Setting the Draft for the Delivery Rollers and the Take-off Roller* ▶ 338

Minimum time to stop doffer

Range	0 – 120 seconds
Default value	0 seconds

After stopping the production, the doffer and cleaning brush keep operating for the time in the field of **Minimum time to stop doffer**.

- This period of time is concerned to the stop procedure of the card feed roll. After expiration of the period of time, the doffer and cleaning brush are automatically stopped if delivery roller is already at a standstill.
- If the **Minimum time to stop doffer** is set to 0 seconds, the doffer and delivery rollers stop synchronically according to the selected draft between the doffer and delivery roller.
- If the **Minimum time to stop doffer** is shorter than usual doffer stopping time, delivery rolls are stopped synchronically according to the selected draft between the doffer and delivery roller.

7.7.48 Data Screen 2.3.1.2 Feed Unit & Cylinder Settings


2.3.1.2 Feed unit & cylinder settings		7:57:39
8118 Delivery normal		
Batt autoleveling	On	
Feed safety device Threshold	120 %	
Switch-off limit Max. batt weight	100 %	
Spring tension distance feed trough	48 mm	
Monitoring of cylinder speed	1.0 %	
Shut-off speed of cylinder	0 rpm	
Cylinder behavior after power outage	Automatic braking	
Solid-matter detector	On	
Limit of solid-matter detector	6 %	
Shut-off thresh. Suc.press.	-400 Pa	
Stop flats after cleaning	Yes	

Figure 174: Data screen 2.3.1.2 feed / cylinder

To change the values in this data screen, the condition that follows is necessary:

- Password level 1

The user can do the settings of the feed and cylinder areas in this data screen.

Batt autoleveling

The user can select **On** or **Off** to start or stop the auto leveling system.

- **On**. The frequency converter changes the speed of the feed roller motor based on the signals received from the feed measuring device.
- **Off**. The speed of the feed roller motor is constant.

See *Doing the Configuration of the Feed Unit and the Cylinder* ▶ 271

Feed safety device Threshold

The user can set the switch-off point of the feed protection as follows.

- Range of the value: 110%- 250%
- For cotton material: 120%
- For material of polyester / blends: 130%

The feed roller stops if an unwanted material is in the batt feed.

See *Doing the Configuration of the Feed Unit and the Cylinder* ▶ 271

Switch-off limit Max. batt weight

This field shows the calculated switch-off factor in proportion of the total measurement distance of the feed measuring device.

The user can't change the value in this field.

Spring tension distance feed trough

The user can set the load of the feed trough by entering the spring tension length.

See *Setting the Preload of the Feed Plate* ▶ 307

Monitoring of cylinder speed

The user can set the tolerance for the percentage rpm of the cylinder as follows.

- Tolerance range: 0.8 – 10%
- Guide value: 1%

If the cylinder rpm falls below the set percentage rpm, the drive switches off and the cylinder is braked.

See *Doing the Configuration of the Feed Unit and the Cylinder* ▶ 271

Shut-off speed of cylinder

This field shows the switch-off point in rpm.

The user can't change the value in this field.

Cylinder behavior after power outage

The user can set the process for the cylinder after power failure as follows.

- **Automatic braking** : The cylinder is braked automatically.
- **Brake or start manually** : The cylinder can be braked manually or the cylinder can be started again manually.

See *Doing the Configuration of the Feed Unit and the Cylinder* ▶ 271

Solid-matter detector

The user can select **On** or **Off** to enable or disable the solid matter detector.

The solid matter detector function is used to detect the solid matter which goes into the lick-in unit. The machine stops if the solid matter goes into the lick-in unit.

Limit of solid-matter detector

Limit of solid-matter detector

The default value	6%
-------------------	----

To remove the solid matter see *Removing the Blockage in the Licker-In Unit* ▶ 313

Shut-off thresh. Suc.press.

In this field, the user can set the set point of the suction pressure of the card.

If the actual suction pressure of the card is lower than the set point, the production stops.

Stop flats after cleaning

The user can select **Yes** or **No** to stop flats after cleaning or keep flats running after cleaning.

The user must select **No** when using other external cleaning device to prevent the flat from being damaged.

7.7.49 Data Screen 2.3.1.3 Settings IGS

2.3.1.3 IGS settings		7:57:51
8118 Delivery normal		
IGS-classic (Cylinder)		
Lifetime of clothing	900	t
End of service life	Contin. grinding	
Grinding budget	400	Cycles
IGS-top (Flats)		
Lifetime of clothing	900	t
End of service life	Contin. grinding	
Grinding time/life	5	min

Figure 175: Data screen 2.3.1.3 settings IGS

To change the values in this data screen, the condition that follows is necessary:

- Password level 1

The user can set the experiential values of the maintenance of the cylinder clothing in this data screen.

Lifetime of clothing

In this field, the user can set the experiential value of the service life of the cylinder clothing. The value range from 100 - 4000 t.

See *Doing the Configuration of the IGS* ▶ 273

End of service life

The user can set the behavior of the IGS system refer to the behavior status that follows.

- If the user selects **Stop grinding**, the grinding will be stopped after the grinding budget is reached.
- If the user selects **Contin. grinding**, the grinding will continue until the double of cycles (maximum 400 cycles) of the original budget is reached.

See *Doing the Configuration of the IGS* ▶ 273 and *Doing the Inspection of the Grinding Stone* ▶ 774

Grinding budget

The user can set the newly calculated numbers of grinding cycles refer to the condition that follows.

- Number of cycles: 270 ($\leq 750t$)
- Number of cycles: 400 ($\geq 750t$)

See *Doing the Configuration of the IGS* ► 273

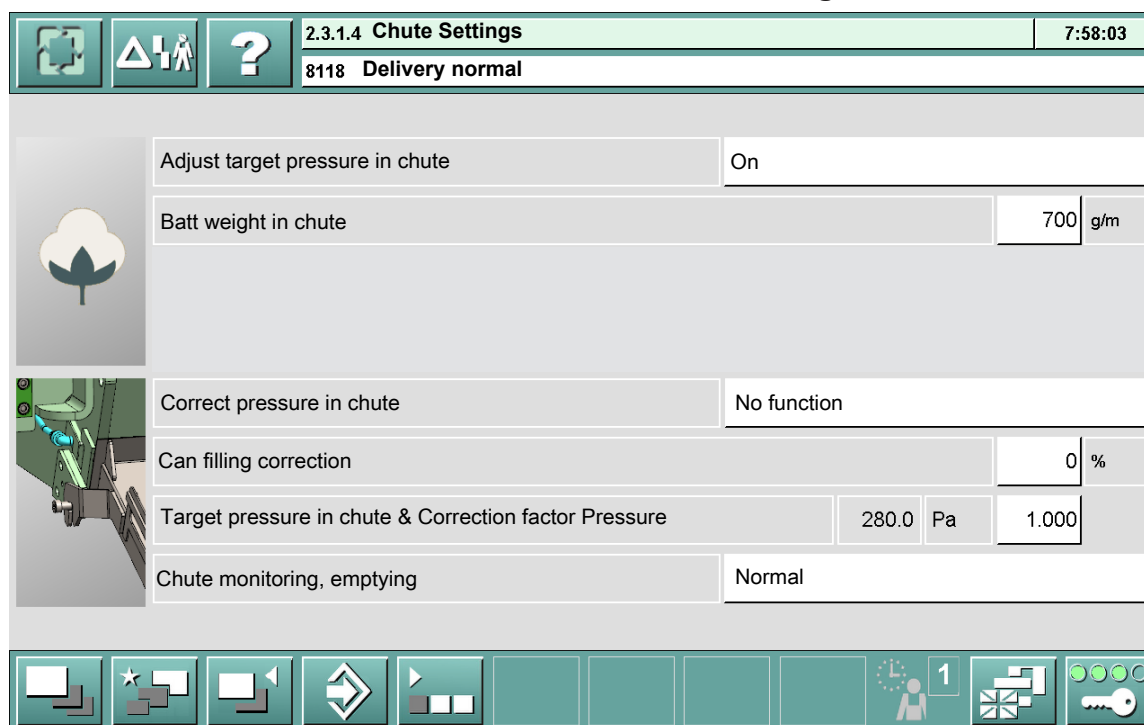
Grinding time/life

The user can set the experiential value of the grinding interval matched to service life.

The range is from 2 to 8 min. The guide value is 5 min.

See *Doing the Configuration of the IGS* ► 273

7.7.50 Data Screen 2.3.1.4 Chute Settings



2.3.1.4 Chute Settings		7:58:03	
8118 Delivery normal			
Adjust target pressure in chute	On		
Batt weight in chute	700	g/m	
Correct pressure in chute	No function		
Can filling correction	0	%	
Target pressure in chute & Correction factor Pressure	280.0	Pa	1.000
Chute monitoring, emptying	Normal		

Figure 176: Data screen 2.3.1.4 chute settings

To change the values in this data screen, the condition that follows is necessary:

- Password level 1

Adjust target pressure in chute

The user starts this function in the production mode.

The user can stop this function for tests.

Batt weight in chute

See *Setting the Batt Weight* ▶ 288

Correct pressure in chute

The user can adjust the pressure if necessary (See *Adjusting the Batt Weight* ▶ 288).

Target pressure in chute & Correction factor Pressure

The field **Chute Target Pressure** shows the internally determined value.

The field **Correction factor Pressure** shows the internally determined value and the value can be entered again after a software update.

Waiting time Warning Empty chute

Setting the switch-off delay of the chute monitor.

Normal	Normal switch-off delay
Short	Short switch-off delay (- 10 %)

7.7.51 Data Screen 2.3.1.5 Settings Extended 1

2.3.1.5 Extended settings 1 13:01:31

8118 Ready to start

Material flow fast after: 2 s

Speed creep speed: 15 m/min

Max. time production in creep speed: 3 min

Ends down monitor at

Piecing-up after: 200 s

Piecing-up no feed after: 250 s

Normal production after: 3 m

Figure 177: Data screen 2.3.1.5 settings extended 1

In this data screen, the user can make basic settings of the production start and the sliver ends down monitor.

Material flow fast after:

If the light sensor is covered during the specified time period, the doffer starts automatically to high speed and the module is prepared for normal production.

This field shows that the machine will speed up to high speed production automatically after the sensor is covered by the card sliver after 2 s.

To start the function of **Automatic acceleration**, the user must set the **Automatic acceleration** to **On** in the data screen 2.3.1.1 **Delivery unit settings**.

Speed creep speed:

The delivery of the card operates in specified speed.

The guide value of the delivery at a low speed is 15 m/min.

Max. time production in creep speed:

After the max. time is expired, the production in creep speed will stop automatically.

For example, during the piecing-up procedure, if the light sensor does not detect the card sliver for time set in field of **Max. time production in creep speed**: the production stops.

Range of the timeout	1-10 min
Default value	3 min

See *Setting the Switch-Off Delay of the Doffer in the Slow Speed to the Maximum* ► 279

Piecing-up after:

When drawing in the sliver with drawn-in batt in the feed, the sliver monitoring is not active in creep speed during the specified time period.

The range of the time period	1 – 300 s
The default value of the time period	200 s

Piecing-up no feed after:

When drawing in the sliver with no lap in the feed, the sliver monitoring is not active in creep speed during the specified time period.

The range of the time period	1 – 250 s
------------------------------	-----------

Normal production after:

If a sliver break occurs after a completed draw-in procedure, the sliver monitoring stops the doffer after the specified meters.

The switch-off delay of the sliver
breakage

3 m

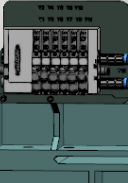
7.7.52 Data Screen 2.3.1.6 Settings Extended 2





2.3.1.6 Extended settings 2
7:58:27

8118 Delivery normal



	Interval	Duration
Delivery unit helical air injection Y8	3 min	1.0 s
Dispose waste from web bridge Y6	3 min	0.4 s
Air injection web bridge Y1	3 min	0.4 s
Flat cleaning unit / Flat section Y5	3 min	3 s
Cleaning, flats, feed Y7	30 s	0.5 s
Cleaning waste points lick-in Y2	30 s	0.5 s



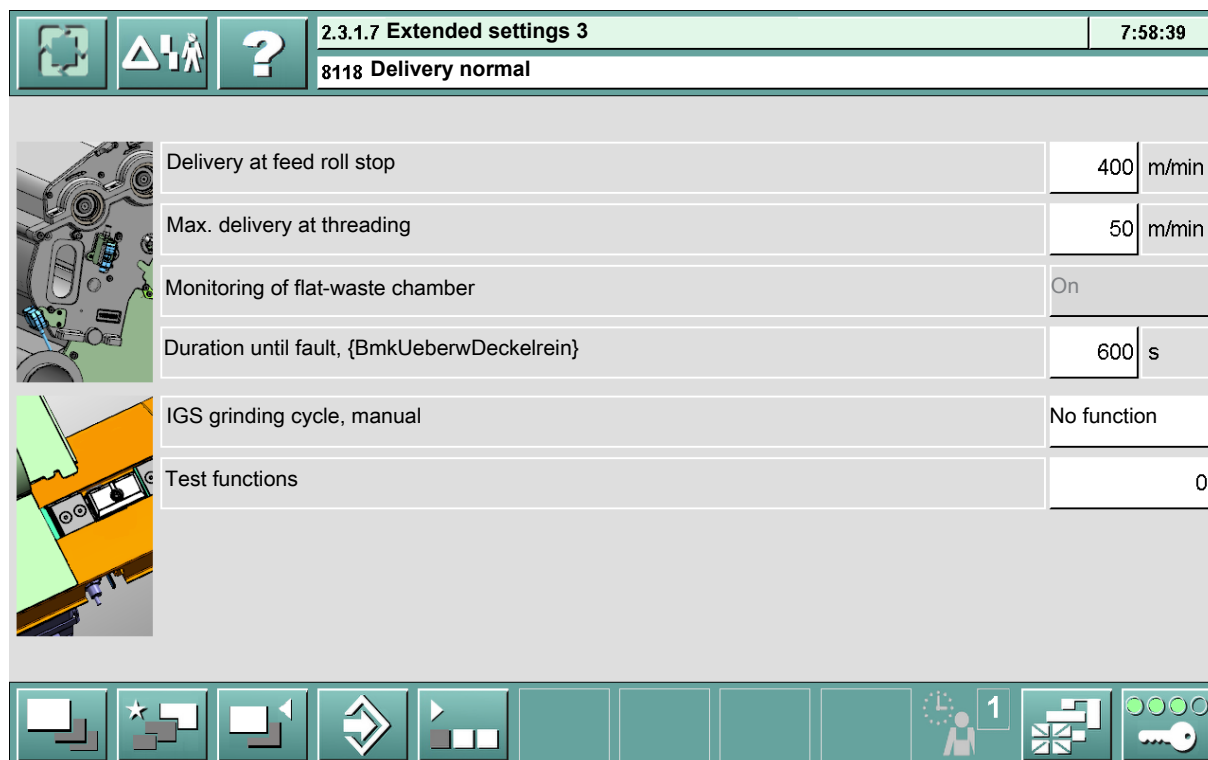
Figure 178: Data screen 2.3.1.6 settings extended 2

In this data screen, the user can make basic settings to keep the machine clean.

Only change the default values, if other causes for possible contamination are eliminated.

Since the interval of **Dispose waste from web bridge Y6** and **Air injection web bridge Y1** is same as Delivery unit helical air injection Y8, so only the interval of Delivery unit helical air injection Y8 is changeable. When the user change the interval of Y9, the interval of Y1 and Y6 change to the same value with Y9 automatically.

7.7.53 Data Screen 2.3.1.7 Settings Extended 3



2.3.1.7 Extended settings 3		7:58:39
8118 Delivery normal		
Delivery at feed roll stop	400	m/min
Max. delivery at threading	50	m/min
Monitoring of flat-waste chamber	On	
Duration until fault, {BmkUeberwDeckelrein}	600	s
IGS grinding cycle, manual	No function	
Test functions	0	

Figure 179: Data screen 2.3.1.7 settings extended 3

In this data screen, the user can do the adjustment of the basic set-up of the machine.

Delivery at feed roll stop

If the user pushes the production stop button, the speed of the doffer decreases until stops.

When the speed of the doffer decreases to the value in the field of **Delivery at feed roll stop**, the feed roll stops.

See *Stopping the Production* ► 264

Max. delivery at threading

In this field, the user can set the speed at start-up.

When the production is started, the machine will operate in this speed until the light sensor of the coiler is covered.

The range of the speed	15 – 80 m/min
The default value of the speed	50 m/min

Monitoring of flat-waste chamber

This switch has been set to the status of **On**.

IGS grinding cycle, manual

With the master of the password level, a manual grinding cycle can be started.

The functions can be chosen as follows:

- No function
- IGS-classic
- IGS-top

Test functions

This field is for test purposes only.

7.7.54 Data Screen 2.3.2.1 Settings Coiler I

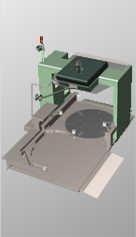
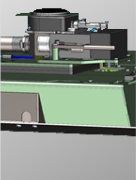
2.3.2.1 Coiler Settings I		11:32:36	
8118 Delivery normal			
	Warning Empty can	5000	m
	Deliv. speed during can change Card	150	m/min
	Draft between card and coiler	1.05 ... 1.05	
	Can change sliver channel blow-in time	1 min 0 s	
	Sliver separation delay time	2.5 s 60°	
	Max. time for funnel to top pos.	2.0	s
	Length of sliver separation	0.01 s 25	mm
	Man. can change, decrease speed	On	

Figure 180: 2.3.2.1 Coiler Settings I (Option: CBA 1200)

2.3.2.1 Coiler Settings I		7:59:16	
8118 Delivery normal			
	Empty can warning	5000	m
	Deliv. can change, card	150	m/min
	Draft card to coiler	1.05 ... 1.05	
	Can change sliver channel blow-in time	1 min 0 s	
	Max. time, funnel to top	2.0	s
	Length of sliver separation	0.01 s 25	mm
	Man. can change, lower speed	On	

Figure 181: Data screen 2.3.2.1 Settings coiler I (Option: CBA-5)

In this data screen, the user can make settings of the delivery section.

Empty can warning

See *Doing the Configuration of the Sliver Coiling Device* ▶ 275

Deliv. can change, card

See *Correcting of the CV % Values* ▶ 402 and *Doing the Configuration of the Sliver Coiling Device* ▶ 275

Sliver separation delay time (Option: CBA 1200)

The **3** is the time to trigger the sliver cutting process. The time counting starts with the movement of the can changer.

The angle **4** makes the sliver end which is hanging out of the can keep in same length.

Draft card to coiler

The draft **1** is the draft between the card and coiler at the creep speed.

The draft **2** is the draft between the card and coiler at the full speed.

Can change sliver channel blow-in time

See *Adjusting the Air Injector of the Sliver Coiling Device* ▶ 374

Max. time, funnel to top

See *Adjusting the Sliver Funnel* ▶ 371

Length of sliver separation

See *Adjusting the Sliver Funnel* ▶ 371

Man. can change, lower speed

See *Doing the Configuration of the Sliver Coiling Device* ▶ 275

7.7.55 Data Screen 3.1.1 Date/Time

The screenshot shows the '3.1.1 Date/Time' data screen. At the top right, the current time is 7:44:19. Below the title bar, the status '8118 Delivery normal' is displayed. The main area contains four settings:

- 1** Time/Date format: 24 hours, dd.mm.yyyy
- 2** Time/Date: 7:44, 13.08.2019, Tuesday
- 3** Time in: Winter time
- 4** Time base efficiency: 4 h

The bottom toolbar contains various navigation icons, including a key icon on the far right.

Figure 182: Data screen 3.1.1 date / time

This data screen is used to set the date and the time.

If there is a **SPIDERweb** connection, the date and the time are specified by **SPIDERweb**. Manual changes are automatically discarded.

If there is no **SPIDERweb** connection, the user can set the time and date as follows.

1. Set the time format in the field **1**,

2. Set the time and date in the field **2**.
3. Select the summer time or winter time in the field **3**.
4. Set the time base (1 – 8 h) to calculate the efficiency in the field **4**.

Time base efficiency

Time basis for calculation of machine efficiency that follows:

- 2 h
- 4 h
- 8 h

Example 4 h, In this case the machine efficiency is calculated and displayed in the basic screen according to the last 4 hours. The shorter the time basis, the quicker the efficiency reacts to the events (for example, machine downtimes).

7.7.56 Data Screen 3.1.2 Units

3.1.2 Units		7:44:55
8118 Delivery normal		
Unit of measurement	metric	▼
Textile units in	ktex	▼

Figure 183: Data screen 3.1.2 units

In this data screen, the user can set the units.

Unit of measurement

In this field, the user can select the **Unit of measurement** as follows:

- Metric

- English

Textile units in

In this field, the user can select the unit for sliver weight as follows:

- ktex
- Ne
- Nm
- gr/yd

7.7.57 Data Screen 3.1.3 Languages



Figure 184: Data screen 3.1.3 languages

In this data screen, the user can set the required languages.

The user can tap the field **1** to shift the languages that has been set.

English is default language and can't be canceled.

7.7.58 Data Screen 3.1.4 Display Properties

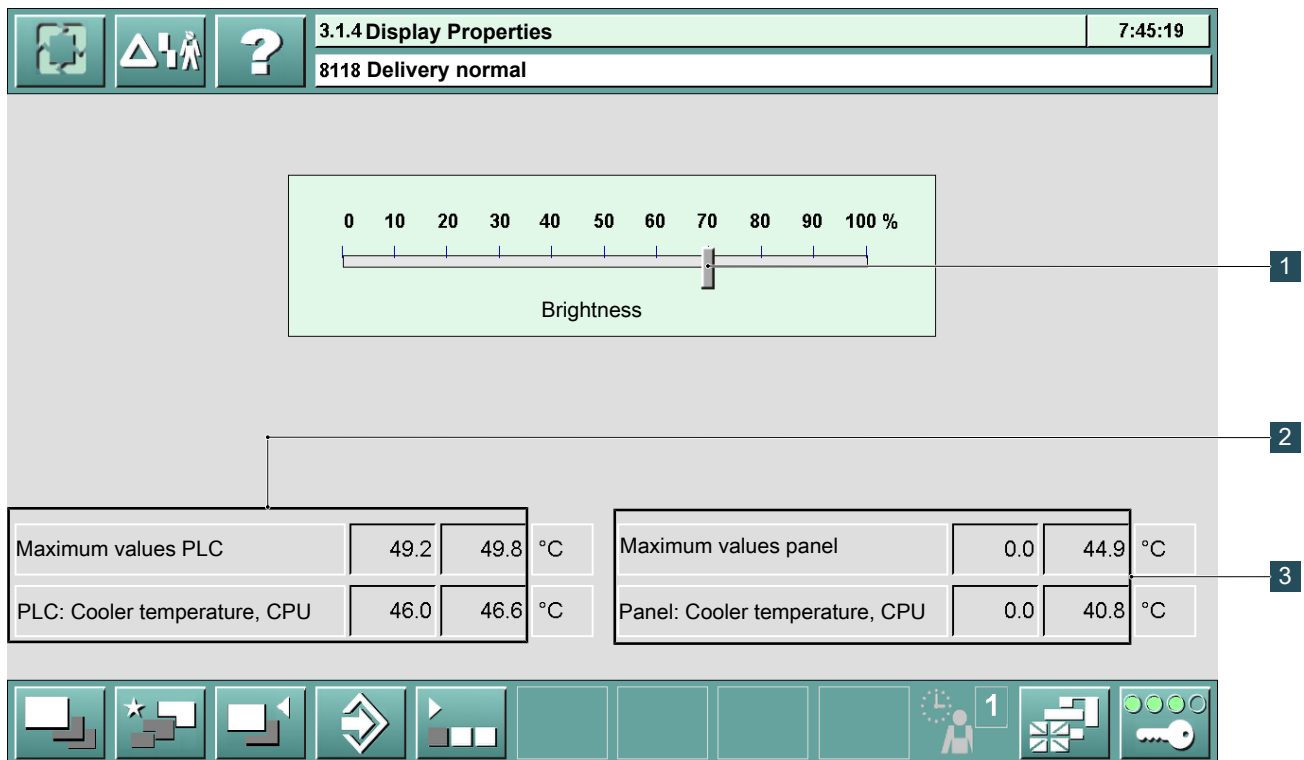


Figure 185: Data screen 3.1.4 display properties

In this data screen, the user can move the slider **1** to change the brightness display.

The temperatures in **2** and **3** are only visible for the user with the level of maintenance or higher.

7.7.59 Data Screen 3.2.1 Shift General

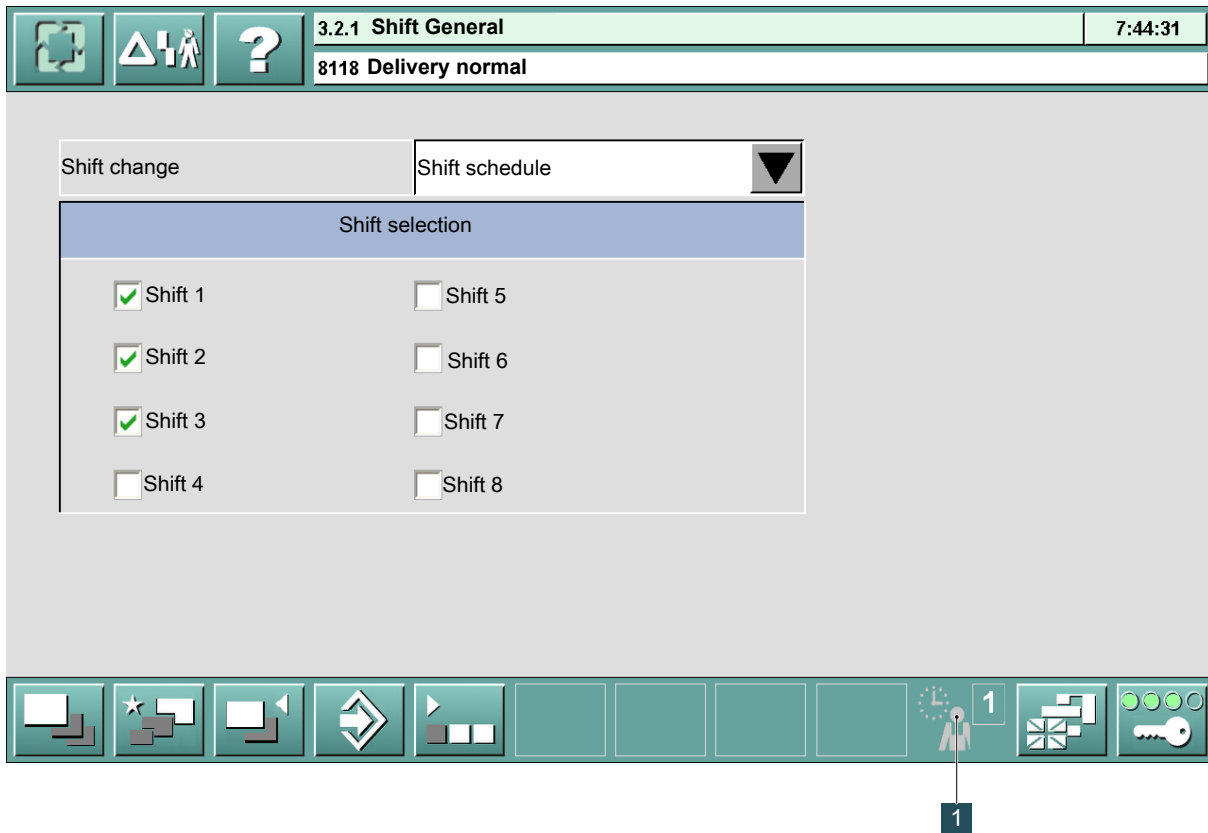


Figure 186: Data screen 3.2.1 shift general

In this data screen, the user can do the adjustment of the shift change.

In the field of **Shift change**, the user can select 2 options of change of shift as follows:

- **Shift schedule** : Change of shift is done automatically in reference to the set shift times.
- **Shift key** : The shift must be changed with the touch key Shift **1**.

7.7.60 Data Screen 3.2.2 Shift Schedule

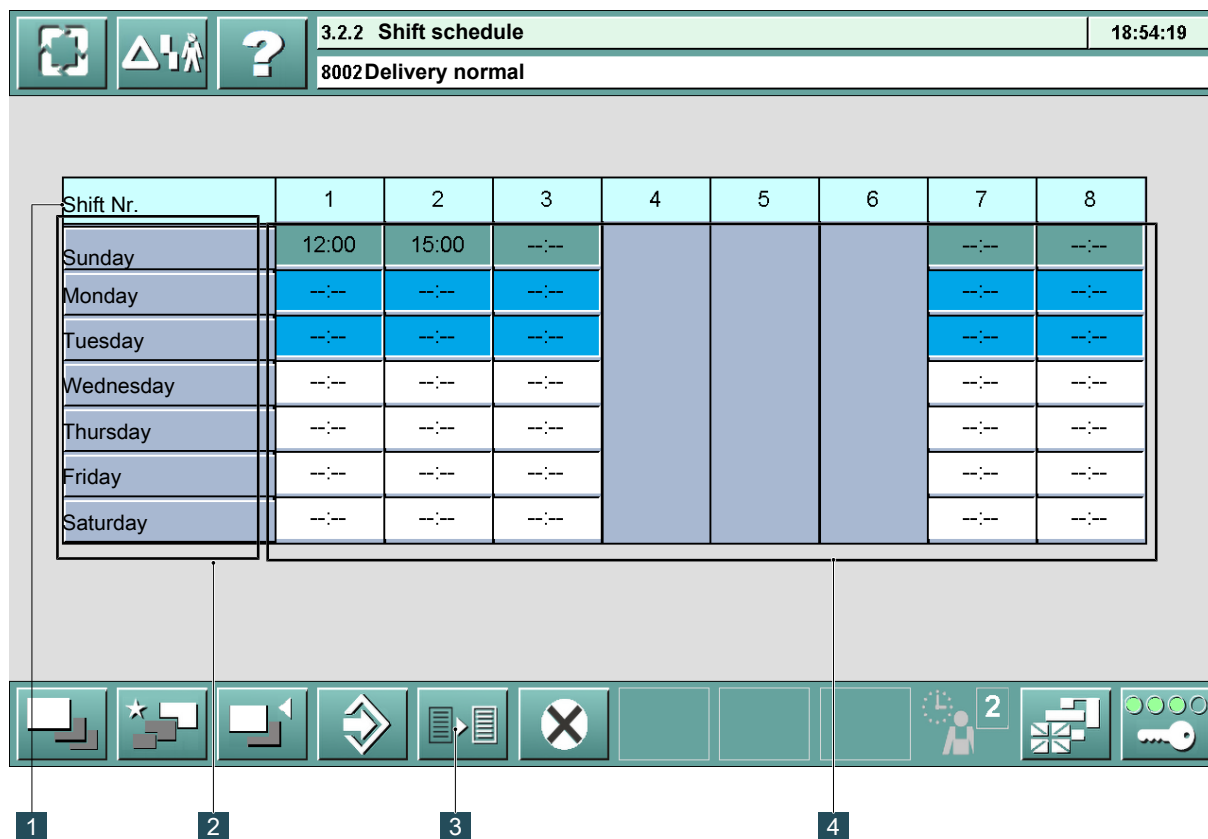


Figure 187: Data screen 3.2.2 shift schedule

1 Shift number

2 Weekdays

3 Touch key **Copy**

4 Shift start times

The user is permitted to select maximum 8 shifts. For shifts that are not started in the data screen 3.2.1, the columns are blue and no entries are possible.

The touch key **Copy** is used to copy the selected shift times.

Example of Copying

1. Tap the touch key **Monday**.
⇒ The line background is dark green.
2. Tap on all day touch keys to which the shift times should be copied.
⇒ The line background of the selected days is blue.
3. To copy the shift times, tap the touch key **Copy** 4.
⇒ The line background of the selected days is green.
⇒ The touch key **Accept** shows in the footer.
4. To accept the copied shift times, tap the touch key **Accept**.
⇒ The line background of the selected days is white.

Result The time shifts are saved.

7.7.61 Data Screen 3.3.1 Network Config.

3.3.1 Network Configuration					7:44:07
8118 Delivery normal					
SPIDERweb communication ☐					
Subnet mask machine	255	255	0	0	
IP address machine	172	27	10	1	
IP address SPIDERweb Host	172	27	1	1	
Default Gateway	172.27.10.1				

Figure 188: Data screen 3.3.1 network configuration

The **SPIDERweb** is a data collection system for production and quality data of Rieter machines.

The **Subnet mask machine** and IP addresses allow the machine to be integrated to an Ethernet network.

The user sets in the field if the **SPIDERweb** communicates with the machines.

Notice

To guarantee the correct functioning, the first and the second block of **IP address machine** and **IP address SPIDERweb Host** have to be the same. The fourth block can be selected free from 1 to 250.

The first block of **Subnet mask machine** has to be "255".

7.7.62 Data Screen 3.3.2 Machine Data

3.3.2 Machine Data		7:43:55
8118 Delivery normal		
Construction year	2018	
Serial number	40026276-00009	
Operating time	15	h

Figure 189: Data screen 3.3.2 machine data

This data screen shows the construction year of the machine, the serial number of the machine, and the operating hours since the machine was commissioned.

7.7.63 Data Screen 3.3.3 Machine Configuration

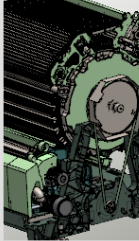
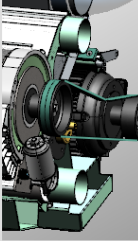
3.3.3 Machine configuration		7:59:53
8118 Delivery normal		
	Type of card	C 80H
	Cylinder drive	Converter Co/Sw
	Cylinder motor	18,5kW
	Disk rolls	9 mm
	Flat type	Revolving flats
	Flats drive	Nord
	IGS-classic (cylinder)	Yes
	IGS-top (flats)	Yes
	U11/U12 interc. activ.	On
	Licker-in type	1
	Vane transposition	Automatic
	Drive	Inverter

Figure 190: Data screen 3.3.3 machine configuration

To change the configuration in this data screen, the conditions that follow are necessary:

- Password level 3
- **Change configuration** is selected in data screen 4.1.5.

In this data screen, the user can do the settings of the machine.

Type of card

In this field, the user can set the machine type as follows:

- **C 80L** : L= “low”, low production
- C80 M: M = “medium”, medium production
- **C 80H** : H = “high”, high production
- C80 W Web Sliver: Version with the cross apron in the delivery
- C80 W Card Web N: Version without the cross apron in the delivery
- C80 W Card Web S: Version prepared for compacting rollers

Cylinder drive

The user can set the drive type of the cylinder as follows:

- **Converter Co/Sw**

- Card for cotton or swing. The cylinder drive equips with frequency converter.
- Speed: 500 – 930 rpm
- **Converter MMF**
 - Card for man-made fiber. The cylinder drive equips with frequency converter.
 - Speed: 500 -750 rpm
- **Chang.gear pulleys**
 - Speed :500 – 880 rpm

Cylinder motor

This field shows the motor power. The motor power is related to the card type.

Disk rolls

The user can set the width of the disk rolls as follows:

- **9 mm** : 4.0 – 12.0 ktex
- **15 mm** : 8.0 – 20.0 ktex

Flat type

The user can set the type of card flats as follows:

- **Revolving flats**
- **Fixed flats**

IGS-classic (cylinder)

If the **IGS-classic (cylinder)** is built in the machine, the user selects **Yes**. Otherwise, the user selects **No**.

IGS-top (flats)

If the **IGS-top (flats)** is built in the machine, the user selects **Yes**. Otherwise the user selects **No**.

U11/U12 interc.activ.

The user can select the 2 options as follows:

- **On** : The machine is equipped to receive electrical support in the case of a power failure. The intermediate circuit connection between the frequency converters U11 and U12 must be wired.

- **Off** : The machine is not equipped for electrical support in the event of a power failure. The composite of the intermediate circuit between the frequency converters U11 and U12 is not wired. If the supply voltage drops below 360 volt, the machine production is stopped as would be the case in a power failure.

Licker-in type

The user can enter the number of the licker-in as follows:

- 1 licker-in
- 3 licker-ins

Vane transposition

The user can select the option of the knife adjustment as follows:

- **Automatic**
- **Manual**

7.7.64 Data Screen 3.3.4 Coiler Configuration

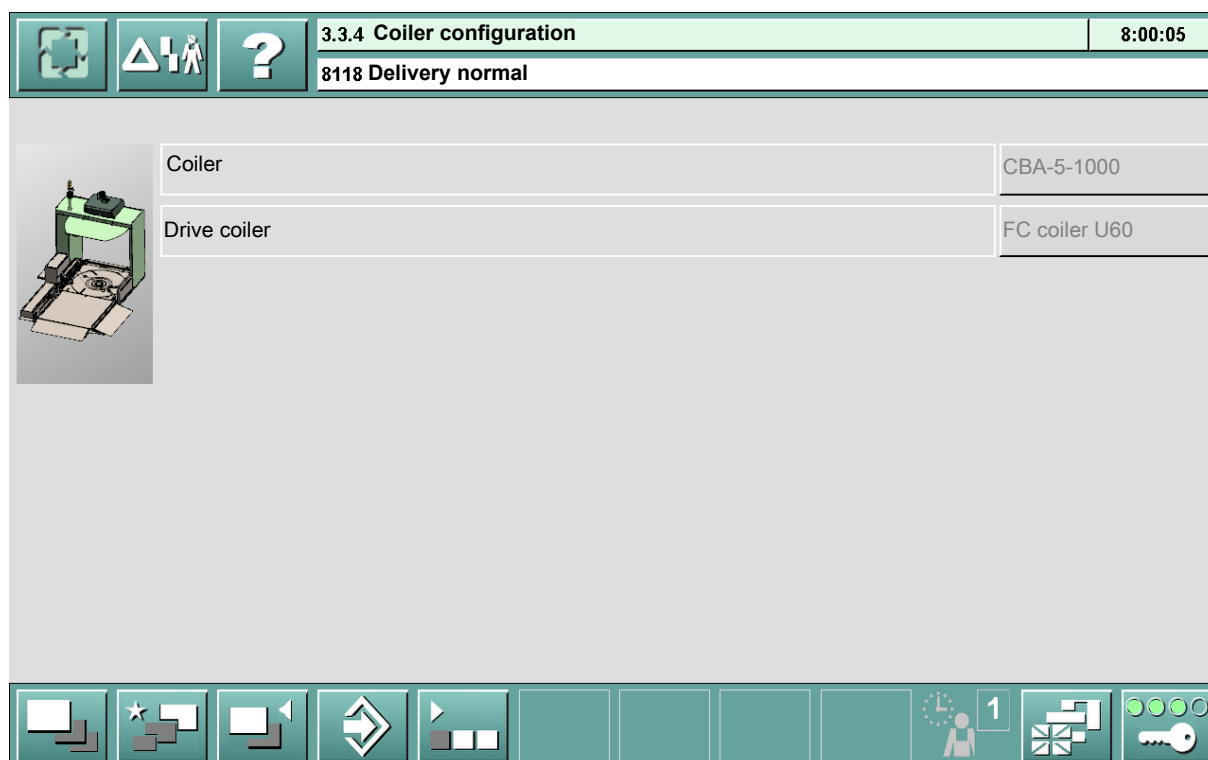


Figure 191: Data screen 3.3.4 coiler configuration

To change the configuration in this data screen, the conditions that follow are necessary:

- Password level 3

- **Change configuration** is selected in data screen 4.1.5.

The user can change the configuration of the coiler in this data screen.

Configuration for C80	
Drive coiler	FC coiler U60
Coiler	CBA-5-1000

Configuration for C80 with CBA 1200	
Coiler	CBA 1200

7.7.65 Data Screen 3.3.5 Chute Configuration

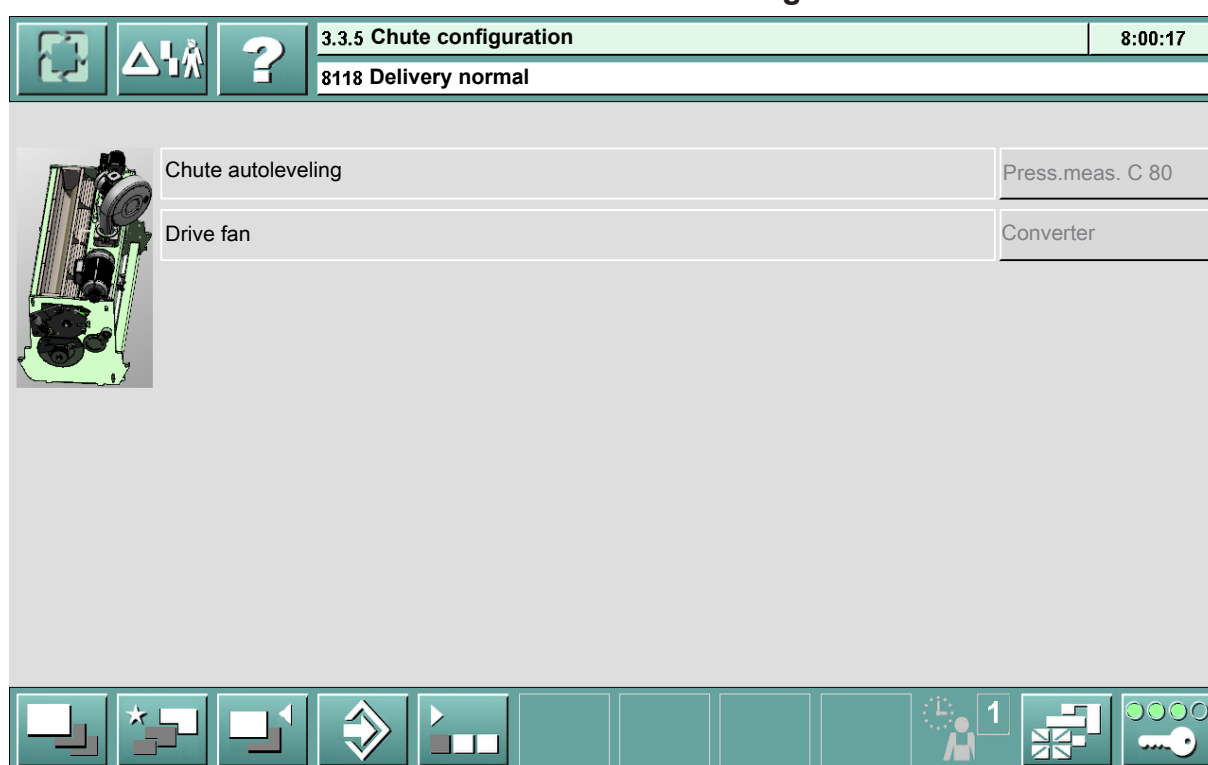


Figure 192: Data screen 3.3.5 chute configuration

To change the configuration in this data screen, the condition that follows is necessary:

- Password level 3
- **Change configuration** is selected in data screen 4.1.5.

The user can change the configuration of the **Chute autoleveling** and the **Drive fan** that are used for the machine.

Configuration for C80	
Chute autoleveling	Press.meas. C 80
Drive fan	Converter

7.7.66 Data Screen 4.1.1 Data Export

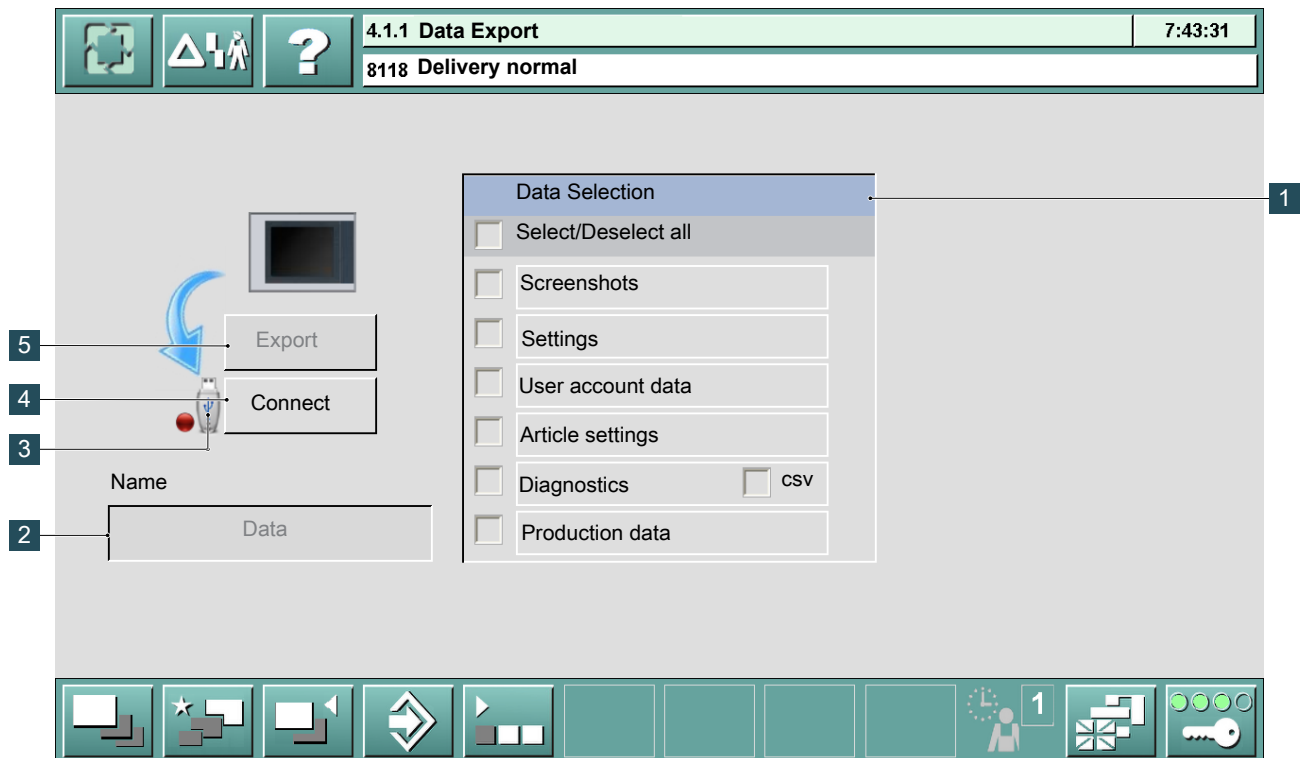


Figure 193: Data screen 4.1.1 data export

1	Data selection	2	Name of the file
3	Status indicator	4	Touch key Connect
5	Touch key Export		

- 1 The user can select the data to be exported.
- 2 This is the exported data designation. The default folder name is Data.
When screenshots are exported to the USB storage device, they are available in the path:
– customer name/machine type/machine number/Data _date _time / screenshots/language code.
- 3 The 2 colors of the indicator 3 are red and green. Red shows that the USB storage device is not engaged, read, or recognized. Green shows that the USB storage device is recognized.
- 4 The connection to the inserted USB storage device is generated with this touch key 4.
- 5 This touch key 5 starts the export of the selected data.

7.7.67 Data Screen 4.1.2 Data Import

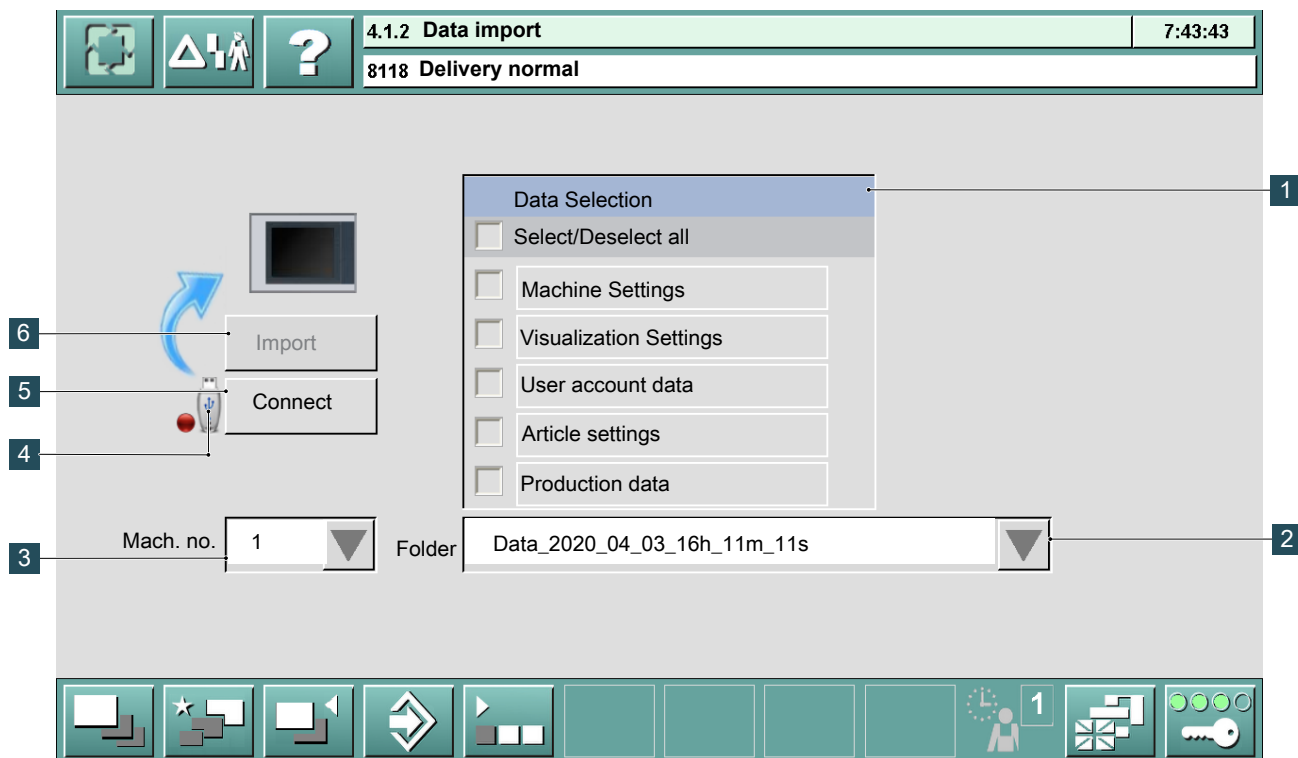


Figure 194: Data screen 4.1.2 data import

1 Data selection

2 Directory

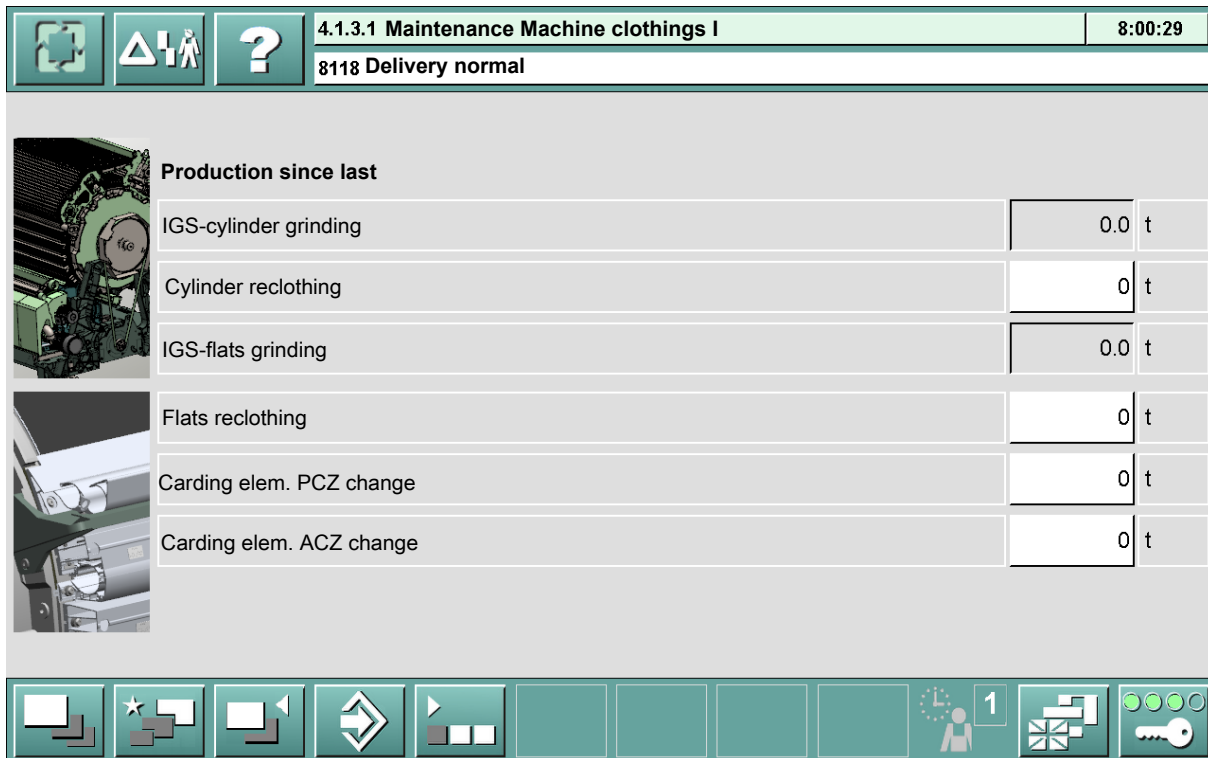
3 Mach. no.

4 Status indicator

5 Touch key **Connect**6 Touch key **Import**

- 1 The user can select the data to be imported.
- 2 A directory of the USB storage device for the import can be selected from the drop-down menu 2.
- 3 If there is a creation of data records with the same customer name on the USB storage device, the drop-down menu 3 can be used to select the machine from which the data is to be imported.
- 4 The 2 colors of the indicator 4 are red and green. Red shows that the USB storage device is not engaged, read, or recognized. Green shows that the USB storage device is recognized.
- 5 The connection to the inserted USB storage device is generated with this touch key 5.
- 6 This touch key 6 starts the import of the selected data.

7.7.68 Data Screen 4.1.3.1 Maintenance Machine Clothing I



4.1.3.1 Maintenance Machine clothings I		8:00:29
8118 Delivery normal		
Production since last		
IGS-cylinder grinding	0.0	t
Cylinder reclothing	0	t
IGS-flats grinding	0.0	t
Flats reclothing	0	t
Carding elem. PCZ change	0	t
Carding elem. ACZ change	0	t

Figure 195: Data screen 4.1.3.1 maintenance machine clothing I

To show this data screen, the condition that follows is necessary;

- Password level 3

This data screen shows the multiple counters of production quantity. This data screen also shows which maintenance task has been done. After doing the maintenance task, the user must set the related counter to zero manually.

IGS-cylinder grinding

For the IGS grinding process, the counter will be set again manually.

Cylinder reclothing

In this field, the user can set the counter again to zero as follows:

- Counter status: 0 t

Flats reclothing

In this field, the user can set the counter again to zero as follows:

- Counter status: 0 t

7.7.69 Data Screen 4.1.3.2 Maintenance Machine Clothing II

4.1.3.2 Maintenance Machine clothings II		8:00:41
8118 Delivery normal		
Production since last		
Doffer grinding:	0	t
Doffer reclothing:	0	t
Doffer clothing:	Activated	
Production since last		
Licker-in change:	0	t
Carding element change:	0	t

Figure 196: Data screen 4.1.3.2 maintenance machine clothing II

To show this data screen, the condition that follows is necessary:

- Password level 3

This data screen shows the multiple counters of production quantity. Each counter is given for a specific maintenance task. If a maintenance task has been done, then the related counter must be set to zero manually.

Doffer grinding:

In this field, the user can set the counter again to zero as follows:

- Counter status: 0 t

Doffer reclothing: and Doffer clothing:

After replacing the clothing, the user can do the steps as follows:

1. Set the counter again to zero in the field of **Doffer reclothing:** .
⇒ The status changes to **Not activated** in the field of **Doffer clothing:** .
2. Start the clothing.
3. Make sure that activation status in the field of **Doffer clothing:** is started.

7.7.70 Data Screen 4.1.3.3 Maintenance Clothings IGS

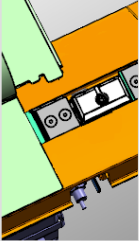
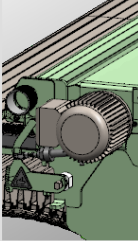
4.1.3.3 Maintenance IGS clothings				11:17:50					
8002 Production ready									
	Cylinder IGS-cl.cycle in:	1.1	t		Flats IGS-top cycle in:	22.5	t		
	Cycles completed:	400	100		%	Cycles completed:	39	102	%
	Budget cycles:	400	100		%	Budget cycles:	38	100	%
	Inspecti.of grindstone:	Stone OK			Last check, grinding force	95		%	
	Grind stone position:	0.000	s		Grinding force:	Normal			

Figure 197: Data screen 4.1.3.3 maintenance IGS clothing

The actions of the IGS records in this data screen.

This data screen shows the actual values for the current condition of the IGS.

Inspecti.of grindstone:

For the user is necessary to select the condition of the grinding stone after doing an inspection of the grinding stone (see *Examining the Grinding Stone* ▶ 799).

For the user is necessary to select the **Stone replaced** after replacing the grinding stone of the IGS-classic.

Grinding force:

If the grinding force is not normal, the user need to adjusting the grinding the force (see *Adjusting the Grinding Pressure* ▶ 816).

7.7.71 Data Screen 4.1.5 Operating Mode Switchover

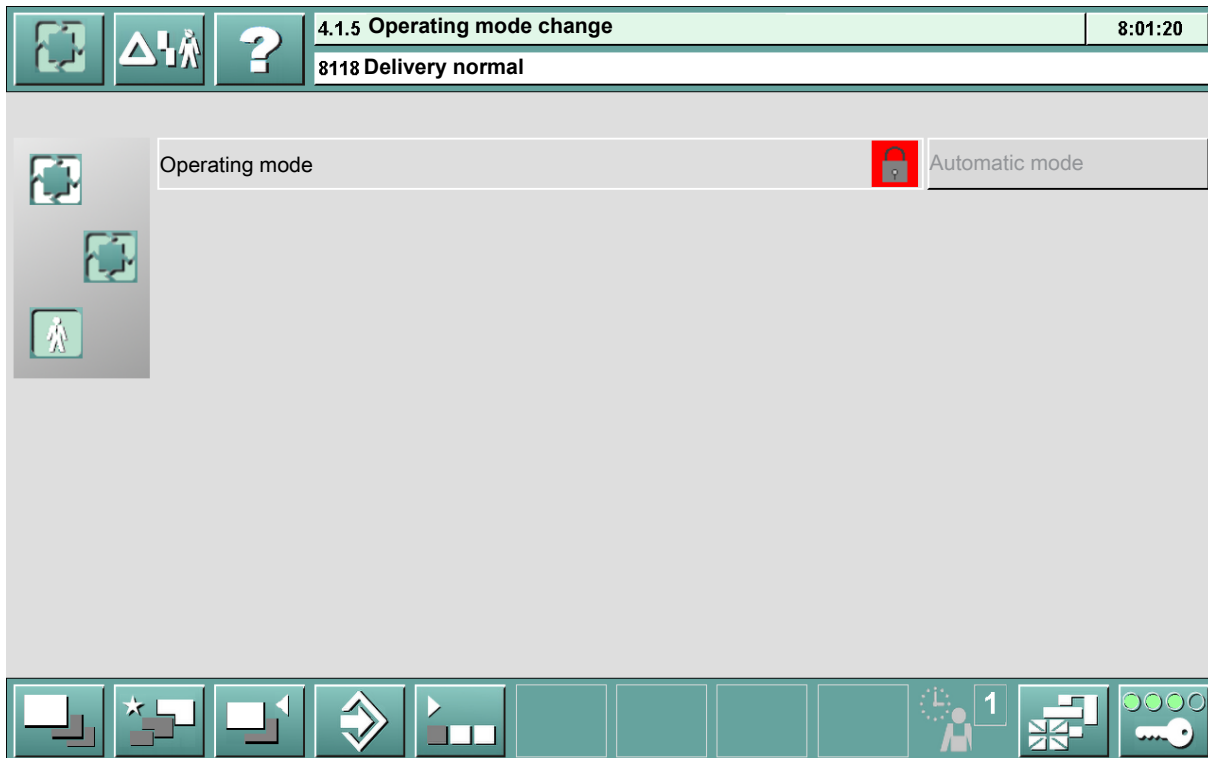


Figure 198: Data screen 4.1.5 operating mode switchover

To change the settings in this data screen, the condition that follows is necessary:

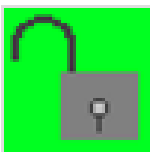
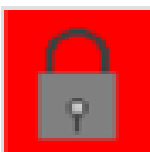
- Password level 3

The user selects the **Operating mode** in this data screen.

Operating mode

The red locked padlock shows that the operating mode is now allowed to change.

To change the operating mode, the user must push the machine stop button to stop the machine first.



The operating mode is allowed to change when the green unlocked padlock shows.

The correct operating mode must be selected for the situations that follows:

Operating mode	
Automatic mode	Mode for production operation
Test mode	Test functions in the menu 4.2 can be done
Change configuration	Data screen 3.3.1 and 3.3.3 can be changed

Operating mode**Service mode**

Operating mode for grinding and pulling on the clothing in the data screens 4.1.6.1 – 4.1.6.3.

7.7.72 Data Screen 4.1.6.1 Grind Cylinder Clothing

4.1.6.1 Grind cylinder clothing		8:49:01
8102 Ready to start		
Execute clothing grinding:	No	
Cylinder rpm set:	450	rpm
Cylinder rpm actual:	0	rpm

Figure 199: Data screen 4.1.6.1 Grind cylinder clothing

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Service mode** is selected in data screen 4.1.5.

The user can do the adjustments for grinding the cylinder clothing in this data screen.

Execute clothing grinding:

In this field, the user can select **Yes** to do the clothing grinding or **No** to not do the clothing grinding.

Cylinder rpm set:

In this field, the user can set the value of the cylinder rpm.

Cylinder rpm actual:

In this field, the value of the current cylinder rpm is shown.

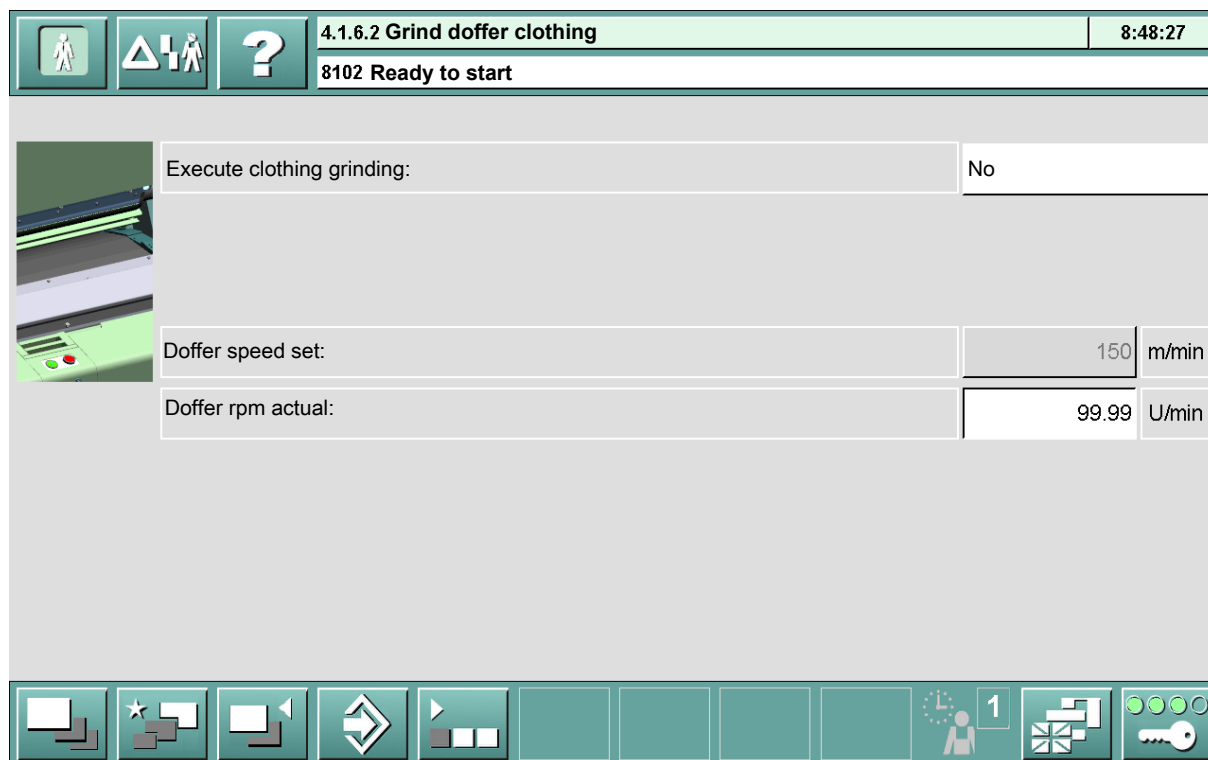
7.7.73 Data Screen 4.1.6.2 Grind Doffer Clothing


Figure 200: Data screen 4.1.6.2 Grind doffer clothing

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Service mode** is selected in data screen 4.1.5.

The user can do the adjustments for grinding the doffer clothing in this data screen.

Execute clothing grinding:

In this field, the user can select **Yes** to do the clothing grinding or **No** to not do the clothing grinding.

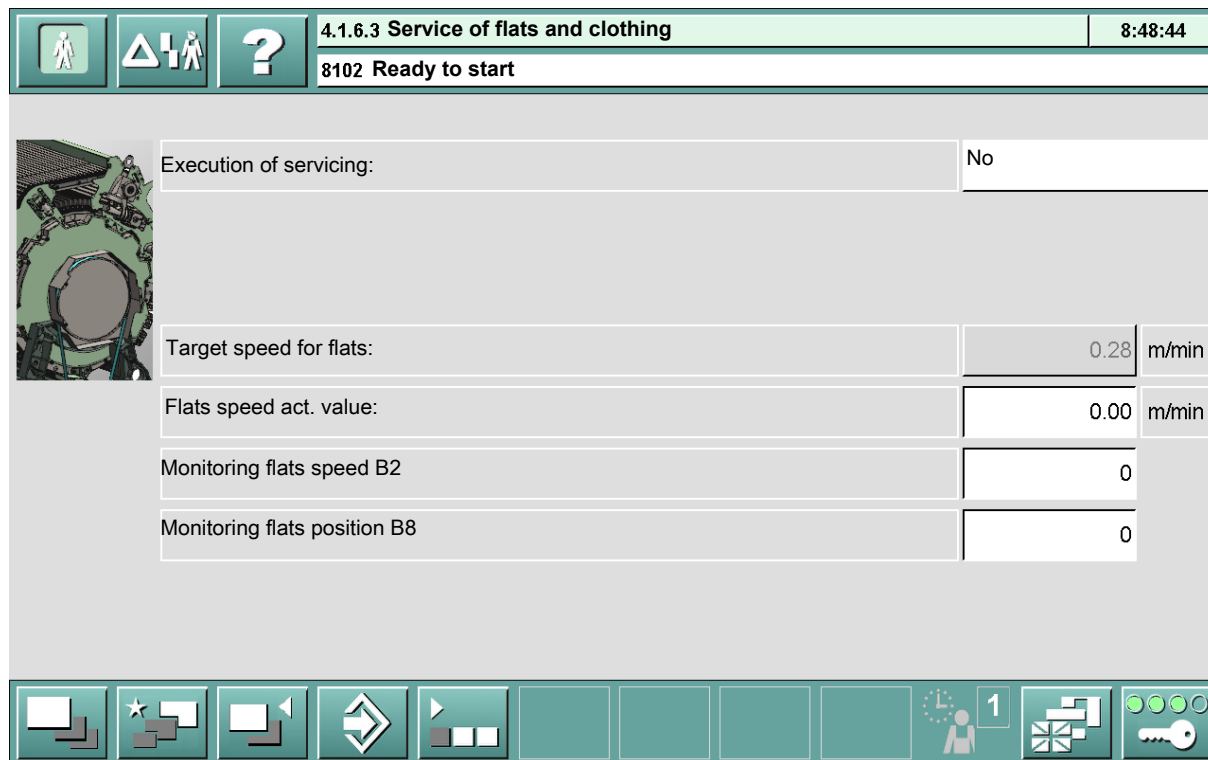
Doffer speed set:

In this field, the user can set the value of the doffer speed.

Doffer rpm actual:

In this field, the value of the current doffer rpm is shown.

7.7.74 Data Screen 4.1.6.3 Servicing, Flats, Clothing



4.1.6.3 Service of flats and clothing		8:48:44
8102 Ready to start		
Execution of servicing:	No	
Target speed for flats:	0.28	m/min
Flats speed act. value:	0.00	m/min
Monitoring flats speed B2	0	
Monitoring flats position B8	0	

Figure 201: Data screen 4.1.6.3 Servicing, flats, clothing

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Service mode** is selected in data screen 4.1.5.

The user can do the adjustments for grinding the clothing of the card flats in this data screen. If the signal differences of the proximity switch B2 and the proximity switch B8 are very large, the drive of the card flats stops.

Execution of servicing:

In this field, the user can select the services as follows:

- **Flat grinding** See *Preparing the Machine for Grinding or Leveling the Card Flats* ▶ 786
- **Flat measurement** See *Moving the Card Flats for the Adjustment* ▶ 333
- **Flat reversal** See *Moving the Card Flats Backward* ▶ 333
- **No**

Target speed for flats:

In this field, the user can set the lowest speed for grinding the card flats. The target speed is 0.25 m/min.

Flats speed act. value:

This field shows the entered speed of the card flats.

Monitoring flats speed B2

This field shows the switch status of the proximity switch B2 for monitoring the card flats.

Monitoring flats position B8

This field shows the switch status of the proximity switch B8 for monitoring the card flats.

If the differences between the B2 and B8 vary excessively, that means the card flat does not move in parallel, the card flats drive will stop the card flat.

7.7.75 Data Screen 4.2.1 Test of Digital Inputs

4.2.1 Test of Digital Inputs		14:13:01	
8106 Machine not ready			
Execute tests	Yes		
Group	General		
MPS chute drives Q42 Q43	1	MPS doffer/delivery Q12	1
MPS chute drives Q41	1	MPS all OFF	0
MPS card feed roll/clean.brush Q10 Q14	1		
MPS flats drives Q50 Q57	1		
MPS cylinder/licker-in Q1 Q13	1		
MPS IGS-top Q55	1		

Figure 202: Data screen 4.2.1 test digital inputs

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

This data screen shows the status of the selected controller inputs.

Execute tests

If select **Yes**, the test function is switched on.

If select **No**, the test function is switched off.

Group

In this field, the user can select the target group as follows.

General

Safety

Chute

Cyl./Licker-in

IGS

Coiler 1

Coiler 2

Plant controls

Operating buttons

Selecting the Target Element

The user can tap the arrow key **1** to select the target element. The selected element is highlighted in blue.

Signal Lamp

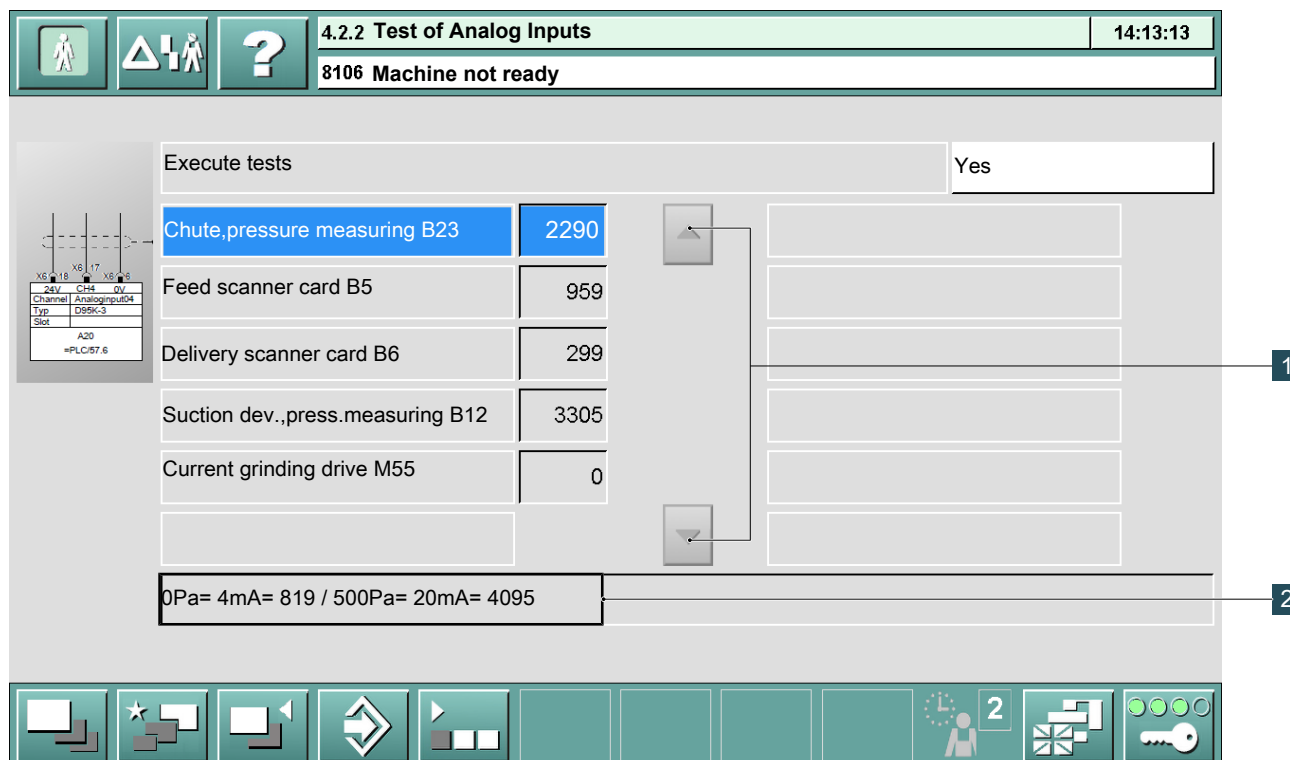
The signal lamp which located at the CBA indicates the input of the selected element.

Input is 1, the signal lamp is ON.

Input is 0, the signal lamp is OFF.

During the test procedure, the user will know the input result through the status of the signal lamp.

7.7.76 Data Screen 4.2.2 Test of Analog Inputs



To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change** .

This data screen shows the statuses of the analog inputs.

Execute tests

If select **Yes**, the test function is switched on.

If select **No**, the test function is switched off.

Chute,pressure measuring B23

See *Calibrating the Pressure Monitor Sensor* ► 89

Feed scanner card B5

See *Adjusting the Sensor of the Feed Plate at the Licker-In* ► 93

Delivery scanner card B6

See *Calibrating the Distance Measurement Device* ► 358

Suction dev.,press.measuring B12

See *Calibrating the Pressure Monitor Sensor* ▶ 89

Current grinding drive M55

See *Adjusting the Grinding Pressure* ▶ 816

See *Examining the Grinding Pressure* ▶ 815

Selecting the Target Element

The user can tap the arrow key **1** to select the target element. The selected element is highlighted in blue.

The information shown in the field **2** are the correct settings of the corresponding sensors.

The user can take the information shown in the field **2** as the reference to adjust the sensors.

7.7.77 Data Screen 4.2.3 Test of Digital Outputs

Channel	DigitalOutput08
Typ	X20DOF322
Slot	100
AS5	
*PLC-EC1/58.5	
DO-08	X15.24

Execute tests	Yes	Group	Chute
FC feed roll chute enable K41	0		
Chute opening roll K42.1	0		
Chute opening roll K42.3	0		
Chute opening roll K42.2	0		
Chute fan on K43	0		
Flap Aerofeed open K45/Y11	0		

Figure 204: Data screen 4.2.3 test of analog outputs

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the test for the individual digital outputs.

Before doing the test, the user should switch off all motor protection switches of the control system, except Q15. If not, the test cannot be done.

Execute tests

If select **Yes**, the test function is switched on.

If select **No**, the test function is switched off.

Group

In this field, the user can select the target group as follows.

Chute

Licker-in/feed

Cylinder/flats

Doffer

IGS

Coiler 1

Coiler 2

Selecting the Target Element

The user can tap the arrow key **1** to select the target element. The selected element is highlighted in blue.

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to set the output (voltage is on).
- Push the stop button to reset the output (voltage is off).

7.7.78 Data Screen 4.2.4 Test of Door Saf. Devices and Watchdog

4.2.4 Test of Door Saf. Devices & watchdog		14:13:37
8106 Machine not ready		
Execute tests	No	Unlock door S18
Door safeguard card S18		0
Door monitoring relay card K22		0
Monitoring watchdog relay K20		1

Figure 205: Data screen 4.2.4 test of door saf. devices and watchdog

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change** .

This data screen shows the statuses of the door safeguards.

Unlock door S18

See *Adjusting the Door Locking Mechanism and the Safety Switch* ► 105

Monitoring watchdog relay K20

In this field, the user can do the test for the safety relay Watchdog.

See *Doing the Function Test of the Safety Relay* ► 777

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

1. Push the start button to start the test, the correct result are shown as the follows.

- ⇒ **Unlock door S18** : 1
- ⇒ **Door safeguard card S18** : 0

- ⇒ Door monitoring relay card K22 : 1
 - ⇒ Monitoring watchdog relay K20 : 1
2. Push the stop button to stop the test, the correct result are shown as the follows.
- ⇒ Unlock door S18 : 0
 - ⇒ Door safeguard card S18 : 1
 - ⇒ Door monitoring relay card K22 : 0
 - ⇒ Monitoring watchdog relay K20 : 1

7.7.79 Data Screen 4.2.5.1 Test of Feed Roller in Chute

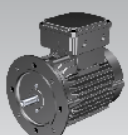
4.2.5.1 Test of Feed Roller in Chute		9:24:47
8106 Machine not ready		
	Run drive tests	No
	Direction of rotation	Backwards
	Feed roll set rpm	1000 rpm
Freq. conv., target value		0.0 Hz
Motor current, actual value		0.0 A

Figure 206: Data screen 4.2.5.1 test of feed roller chute

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change** .

In this data screen, the user can do the tests of the drives.

The information related to the drives is used for diagnosis.

Important Information Before change the direction of the rotation to forwards, make sure that there is no material or foreign object around the feed roller. Otherwise, the material or the foreign object can be pulled into the card which will damage the machine.

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.80 Data Screen 4.2.5.2 Test of Opening Roller in Chute

		4.2.5.2 Test of Opening Roller in Chute		9:24:57	
		8106 Machine not ready			



Run drive tests

No

Opening roll actual rpm	0	rpm
Prox. sw. PPV min / max	0	0 %

										1		
---	---	---	---	---	---	---	---	--	---	---	---	---

Figure 207: Data screen 4.2.5.2 test of opening roller chute

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the tests of the drives.

Opening roll actual rpm

This field shows the effective rpm.

Prox. sw. PPV min / max

See *Adjusting the Proximity Switch for the Opening Roller* ► 88

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.81 Data Screen 4.2.5.3 Test of Fan in Chute

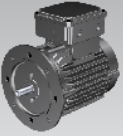
4.2.5.3 Test of Fan in Chute		9:25:16
8106 Machine not ready		
	Run drive tests	No
	Setpoint fan rpm	2000 rpm
	Chute pressure	243.0 Pa
	Freq. conv., target value	0.0 Hz
	Motor current, actual value	0.0 A

Figure 208: Data screen 4.2.5.3 test of fan chute

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the tests of the drives.

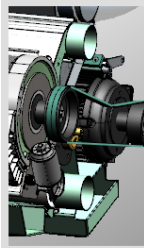
Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the fan.
- Push the stop button to stop the fan.

7.7.82 Data Screen 4.2.5.4 Test of Licker-in

  		4.2.5.4 Test of Licker-In	14:14:25
8106 Machine not ready			



Run drive tests	No	
Licker-in setpoint rpm	1600	rpm
Licker-in actual rpm	0	rpm
Prox. sw. PPV min / max	0	0 %
Freq. conv., target value	0.0	Hz
Motor current, actual value	0.0	A

													
--	--	--	--	--	--	--	--	--	---	--	--	--	--

Figure 209: Data screen 4.2.5.4 test of licker-in

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change** .

In this data screen, the user can do the tests of the drives.

Prox. sw. PPV min / max

In this field, the user can examine the setting of the proximity switch.

See *Adjusting the Proximity Switch for the Licker-In* ► 93

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.83 Data Screen 4.2.5.5 Test of Cylinder

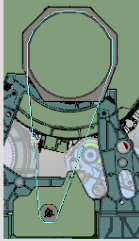
4.2.5.5 Test of Cylinder		14:14:37
8106 Machine not ready		
	Run drive tests	No
	Direction of rotation	Forwards
	Cylinder set rpm	450 rpm
	Cylinder actual rpm	0 rpm
	Prox. sw. PPV min / max	0 0 %
	Freq. conv., target value	0.0 Hz
	Motor current, actual value	0.0 A

Figure 210: Data screen 4.2.5.5 test of cylinder

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the tests of the drives.

See *Adjusting the Proximity Switch for the Cylinder* ▶ 96

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the cylinder.
- Push the stop button to stop the cylinder.

7.7.84 Data Screen 4.2.5.6 Test of Flats Drive

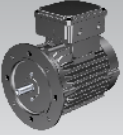
4.2.5.6 Test of Flat Drive		9:25:54		
8106 Machine not ready				
	Run drive tests		No	
	Direction of rotation		Forwards	
	Target speed for flats		0.28 m/min	
	Flats speed act. value		0.00 m/min	
	Torque	27.0 Nm	Alignment of flats B8	0.0 mm
	Freq. conv., target value	0.0 Hz	Monitoring flats speed B2	0
	Motor current, actual value	0.0 A	Monitoring flats position B8	0

Figure 211: Data screen 4.2.5.6 test of flats drive

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the tests of the drives.

Target speed for flats:

In this field, the user can enter the speed of the card flats for the test purpose.

Alignment of flats B8

In this field, the user can examine if the card flats run parallel.

See *Adjusting the Proximity Switches for the Card Flats* ► 97

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.85 Data Screen 4.2.5.7 Test of Clearer Roller of Flats

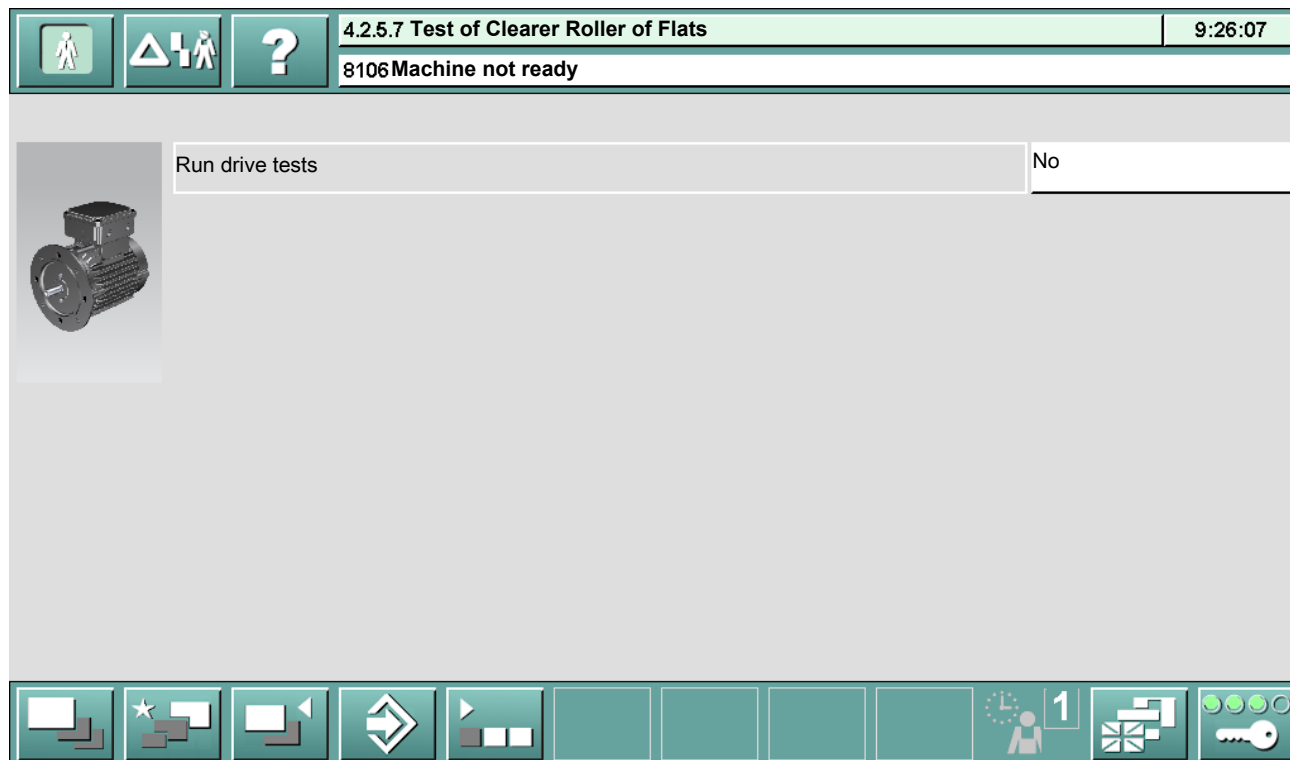


Figure 212: Data screen 4.2.5.7 test of clearer roller of flats

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change** .

In this data screen, the user can do the test of the drive of the clearer roller.

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.86 Data Screen 4.2.6.1 Test of Cleaning Brush

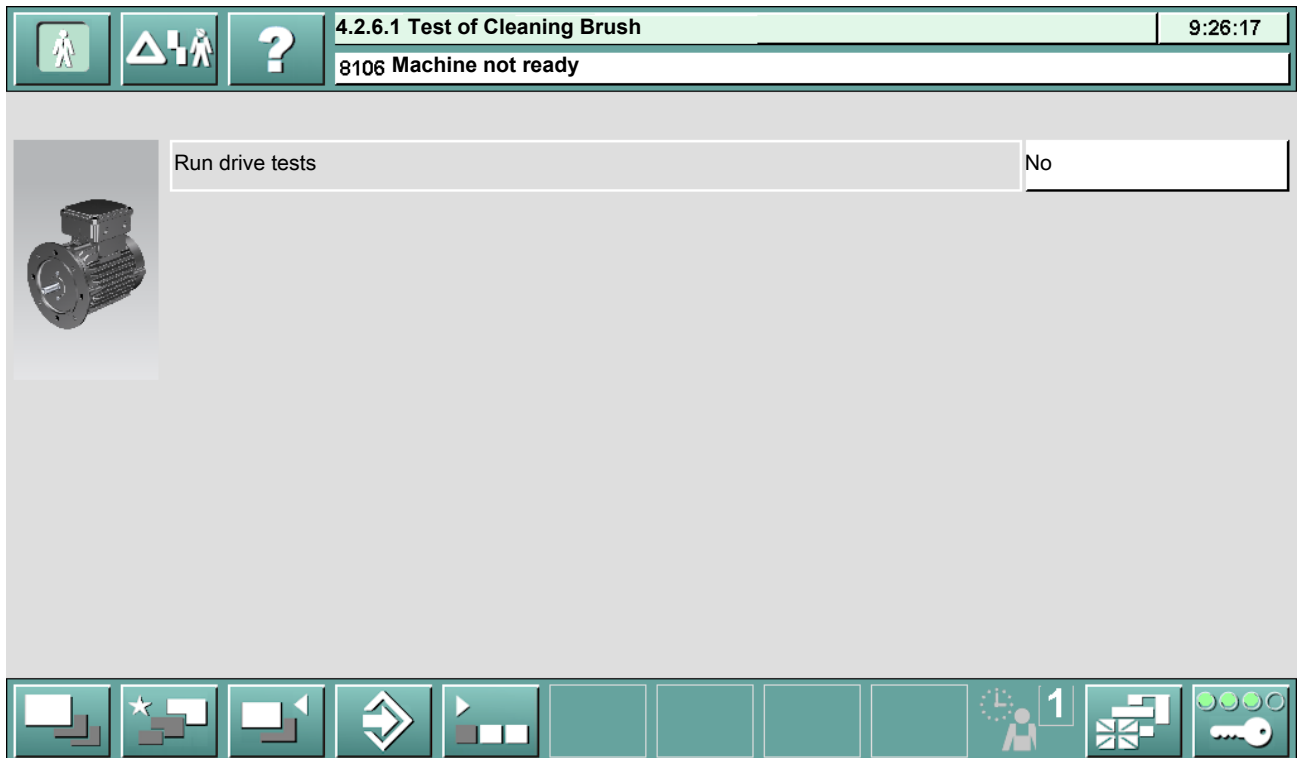


Figure 213: Data screen 4.2.6.1 test of cleaning brush

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the test for the drive of clearing brush at the delivery unit.

Executing the Test Function



CAUTION

Flying particles!

Eye injury

- Wear safety glasses.

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

The Direction of Rotation

At the left side of the machine, watch the direction of the

- If the direction of rotation is anticlockwise, the motors turn correctly.
- If the direction of rotation is clockwise, the motors turn incorrectly. Change 2 phases after main switch is set to position OFF.

7.7.87 Data Screen 4.2.6.2 Test of Feed Roller in Card

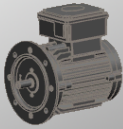
4.2.6.2 Test of Feed Roller in Card		14:15:25
8106 Machine not ready		
	Run drive tests	No
	Direction of rotation	Backwards
	Feed roll set rpm	1000 rpm
	Solid matter detector	Off
	Solid matter detector inverter input 1 Input 2 Carbon brush	0 0 0
	Freq. conv., target value	0.00 Hz
	Motor current, actual value	0.0 A

Figure 214: Data screen 4.2.6.2 test of feed roll in card

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

The user can do the test of the drives in this data screen.

Run drive tests

In this field, the user can select **Yes** to start the drive tests or **No** to not start the drive tests.

Solid matter detector

In this field, the user can select **On** to use the solid matter detector or **Off** to not use the solid matter detector.

The procedure of the test of the **Solid matter detector** is as follows.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The user selects **Yes** in the field of **Run drive tests**

- ✓ The picture of the green button and the red button are shown.
- 1. Start the solid matter detector.
- 2. Examine if the value for carbon brush is 1.
- 3. If not, find the cause of the mistake or replace the carbon brush.
- 4. Make a shortcut between the feed lip and the ground.
 - ⇒ The input 1 must be 1.
- 5. Make a shortcut between the feed roller and the ground.
 - ⇒ The input 2 must be 1.
- 6. Make a shortcut between the feed roller and feed lip.
 - ⇒ The inputs 1 and 2 must be 1.

Importance Contact the feed lip at the terminal strip. The feed lip cannot be contacted directly.

7.7.88 Data Screen 4.2.6.3 Test of Doffer in Card

4.2.6.3 Test of Doffer in Card		9:26:57
8106 Machine not ready		
	Run drive tests	No
	Motor set rpm	500 rpm
	Doffer actual rpm	0.00 U/min
	Prox. sw. PPV min / max	0 0 %
	Freq. conv., target value	0.00 Hz
	Motor current, actual value	0.0 A

Figure 215: Data screen 4.2.6.3 test of doffer in card

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5. **Operating mode change**.

In this data screen, the user can do the tests of the drives.

Prox. sw. PPV min / max

In this field, the user can examine the setting of the proximity switch.

See *Adjusting the Proximity Switch for the Doffer Speed* ► 100

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.89 Data Screen 4.2.6.4 Test of Delivery Unit

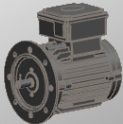
4.2.6.4 Test of Delivery Unit		14:15:49
8106 Machine not ready		
	Run drive tests	No
	Delivery set speed	150 m/min
	Delivery actual speed	0 m/min
	Prox. sw. PPV min / max	0 0 %
	Freq. conv., target value	0.0 Hz
	Motor current, actual value	0.0 A

Figure 216: Data screen 4.2.6.4 test of delivery unit

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change** .

Prox. sw. PPV min / max

In this field, the user can examine the setting of the proximity switch.

See *Adjusting the Proximity Switch for the Disk Rollers* ► 101

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the drive.
- Push the stop button to stop the drive.

7.7.90 Data Screen 4.2.6.5 Test of Main Motor of Coiler

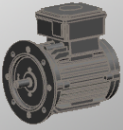
4.2.6.5 Test of Main Coiler Motor		14:16:01
8106 Machine not ready		
	Run drive tests	No
	Delivery set speed	150 m/min
	Freq. conv., target value	0.0 Hz
	Motor current, actual value	0.0 A
		















Figure 217: Data screen 4.2.6.5 test of main motor coiler (Option: CBA-5)

4.2.6.5 Test of Main Coiler Motor		11:35:32
8062 Test & service mode		
Do drive tests	Yes	
Nominal value Delivery speed	150	m/min
Coiler wheel position B18	720.0	°
Nominal value Freq. conv.	37.2	Hz
Actual value Motor current	0.0	A

Figure 218: Data screen 4.2.6.5 test of main motor coiler (Option: CBA 1200)

To use this data screen, the conditions that follow are necessary:

- Password level 3
- **Test mode** is selected in data screen 4.1.5 **Operating mode change**.

In this data screen, the user can do the tests of the drive units.

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the coiler.
- Push the stop button to stop the coiler.

7.7.91 Data Screen 4.2.7.2 Test of Converter

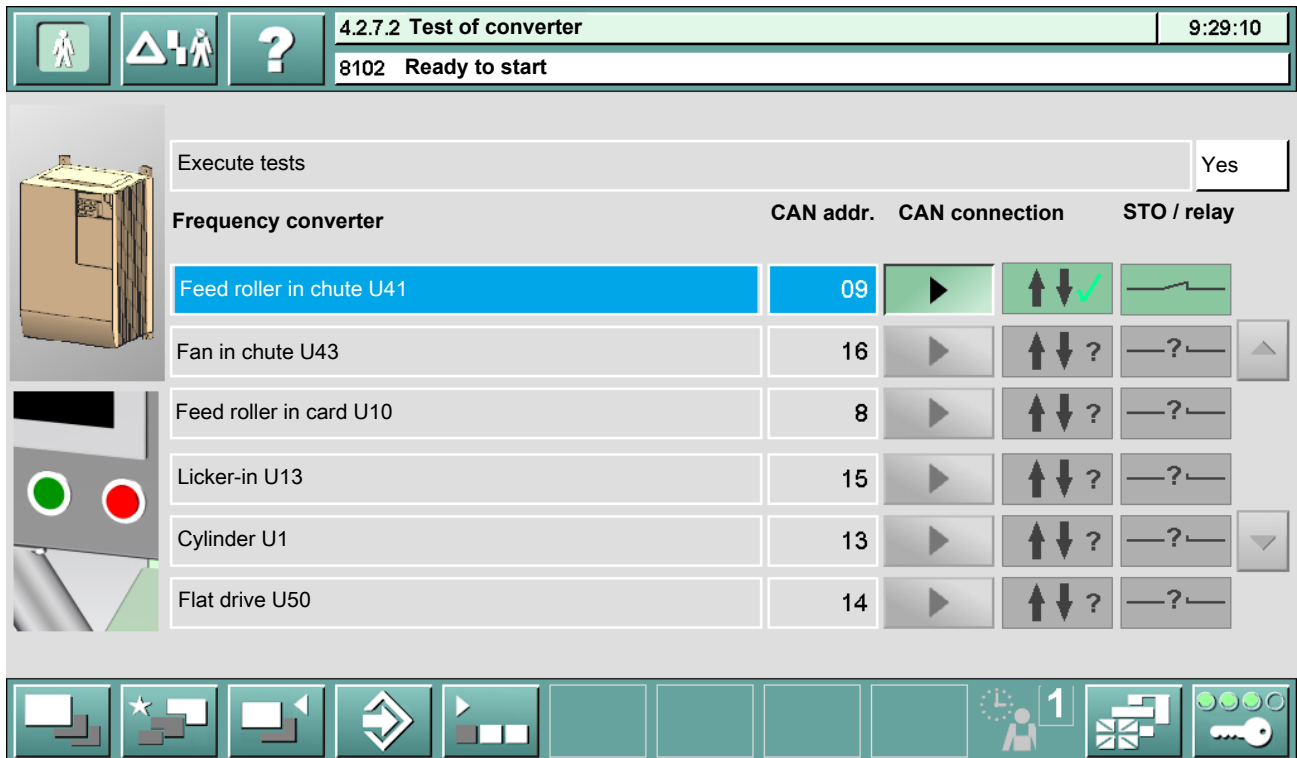


Figure 219: Data screen 4.2.7.2 test of converter

To show this data screen, the conditions that followed are necessary.

- Password level 3
- **Test mode** is selected in data screen 4.1.5.

In this data screen, the user can energize the frequency converters in sequence for test purposes.

Execute tests

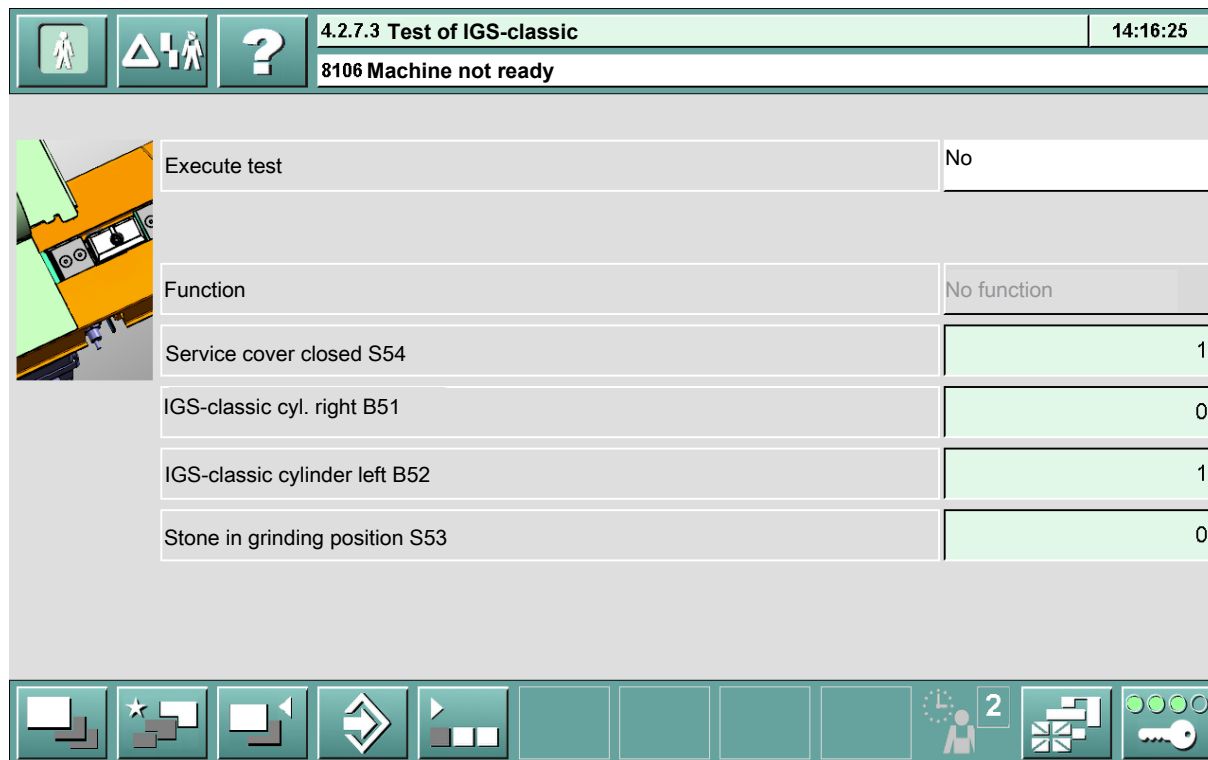
Test the frequency converter. See *Doing the Function Test of the Safety Relay* ▶ 777

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the test.
- Push the stop button to stop the test.

7.7.92 Data Screen 4.2.7.3 Test of IGS-classic



4.2.7.3 Test of IGS-classic		14:16:25
8106 Machine not ready		
Execute test	No	
Function	No function	
Service cover closed S54	1	
IGS-classic cyl. right B51	0	
IGS-classic cylinder left B52	1	
Stone in grinding position S53	0	

Figure 220: Data screen 4.2.7.3 test of IGS-classic

To show this data screen, the conditions that followed are necessary.

- Password level 3
- **Test mode** is selected in data screen 4.1.5.

In this data screen, the user can do the tests of all functions of IGS-classic (See *Doing a Function Test of the IGS-classic* ► 811).

Executing the Test Function

Condition: the graphic of green and red buttons is shown in the data screen.

- Push the start button to start the test.
- Push the stop button to stop the test.

7.7.93 Data Screen 4.2.7.4 Test of IGS-top

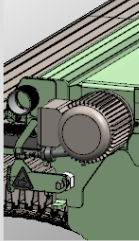
4.2.7.4 Test of IGS-top		8:12:43
8102 Ready to start		
	Execute test	No
	Function	No function

Figure 221: Data screen 4.2.7.4 Test of IGS-top

To show this data screen, the conditions that followed are necessary.

- Password level 3
- **Test mode** is selected in data screen 4.1.5.

In this data screen, the user can do the tests of all functions of IGS-top.

Execute test

- No
- Check
- Test

Execute test: Check

4.2.7.4 Test of IGS-top		10:03:28
8062 Test & service mode		
	Execute test	Check
	Function	Check grinding pressure
	Act. flats no.	1
	Flat speed	0.28 m/min
	Target current, grinding drive	3.44 A
	Actual current, grinding drive	0.00 A
	Last check, grinding force	Too high

Figure 222: Check grinding pressure

Measuring current. See *Examining the Grinding Pressure* ► 815

Act. flats no.

This field shows the current number of ground card flats.

Flats speed act. value

This field shows the effective speed of the card flats.

Target current, grinding drive

This field shows the calculated current consumption of the drive motor when the grinding pressure has been set correctly.

Actual current, grinding drive

This field shows the actual current consumption of the drive motor of the grinding pressure.

Last check, grinding force

This field shows the results of the most recent test of the grinding pressure and the grinding force is calculated for the previous 10 card flats.

Execute test: Test

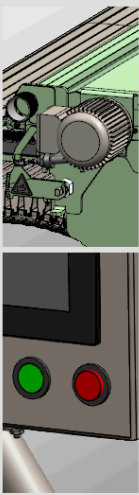
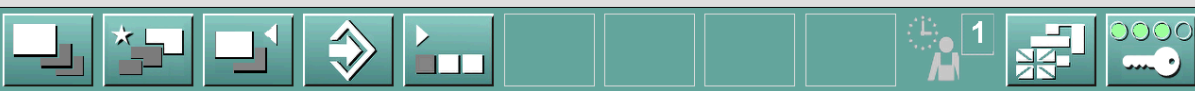
  		4.2.7.4 Test of IGS-top	10:10:05
8062 Test & service mode			
	Execute test	Test	
	Function	Flat grinding drive	
	Actual current, grinding drive	3.59	A
			

Figure 223: Test of the IGS-top

The selection of the **Function** are as follows.

- **Flat grinding drive**
 - Push the start button, the grinding brush of IGS-top starts.
 - The actual current of the grinding drive is shown in the field Actual current, grinding drive .
- **Raise flat**
 - Push the start button, the card flat which is at the slide shoes moves up.
 - Push the stop button, the card flat comes back to original position.

7.7.94 Data Screen 4.2.7.8 Test of Mote Knife Licker-in

4.2.7.8 Test of Mote knife Licker-in		8:13:06
8102 Ready to start		
Execute test	No	
Function	No function	
Ejection distance actual	50.0	mm
Sensor knife extended B29	0	
Impulse counter knife drive M29	0	

Figure 224: Data screen 4.2.7.8 Test of Mote knife Licker-in

To show this data screen, the conditions that followed are necessary.

- Password level 3
- **Test mode** is selected in data screen 4.1.5.

In this data screen, the user can do the tests for all functions of the adjustment element of automatic knife on the licker-in.

Function:

In this field, the user can do the adjustment to make the piston rod move to the selected positions as follows:

- Approach min. position
- Approach max. position
- Approach ref. position
- Approach setpoint pos.

Ejection Distance Actual:

This field shows the actual position of the mote knife.

Sensor knife extended B29

The signal is used to monitor the mote knife position.

Value 1: The mote knife is at the extended position.

Value 0: The mote knife is not at the extended position.

Impulse Counter knife drive M29

This field shows the value for the position transducer. This value is for adjusting the mote knife.

7.7.95 Data Screen 4.3.1 System Diagnosis

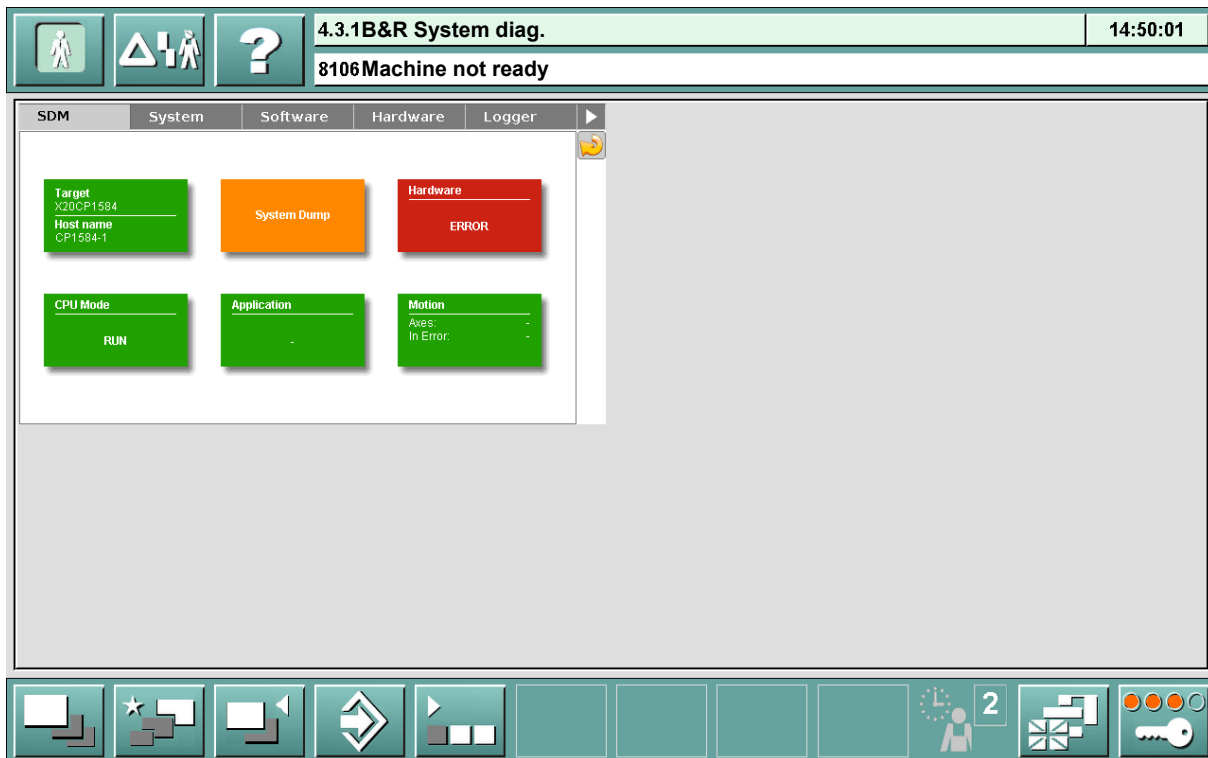


Figure 225: Data screen 4.3.1 B&R System Diag.

This data screen is only for Rieter service personal to examine the condition of the system.

To entry this data screen, the user needs to apply for the password from the Rieter development.

7.7.96 Data Screen 4.3.3 Remote Maintenance Diagnostics

4.3.3 Remote maintenance Diagnoses		8:03:41
8118 Delivery normal		
SiteManager status	Wait for connection	
Serial Number	00000000000	
Remote maintenance allowed	Not allowed	
Connection status GateManager	Not connected	
Status ethernet	Not connected	
Status WiFi	Not connected	

Figure 226: Data screen 4.3.3 Remote maintenance diagnostics

This data screen is only for the Rieter service personal to examine the remote maintenance diagnoses.

7.8 Gearing Layouts

This section contains the information about the gearing layouts of different machine function units.

7.8.1 Gearing Layout of the Delivery Unit

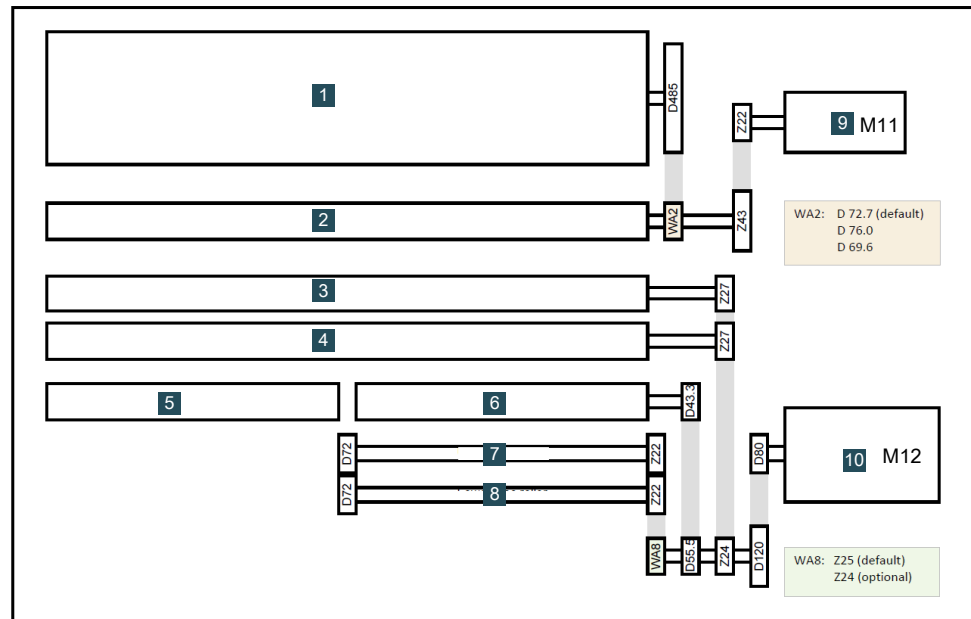


Figure 227: Gearing layout of the delivery unit

1	Doffer	2	Take-off roller
3	Top delivery roller	4	Bottom delivery roller
5	Cross apron at the left side	6	Cross apron at the right side
7	Top disk roller	8	Bottom disk roller
9	Doffer motor M11	10	Delivery motor M12

Draft Between the Doffer and the Take-off Roller

Dimension of the Pulley	Draft
69.6	1.16
72.7(default value)	1.11(default value)
76.0	1.06

Draft Between the Take-off Roller and the Delivery Roller

Range	1.25 – 2.8
Default value	2.0

7.8.2 Gearing Layout of the Sliver Coiling Device CBA

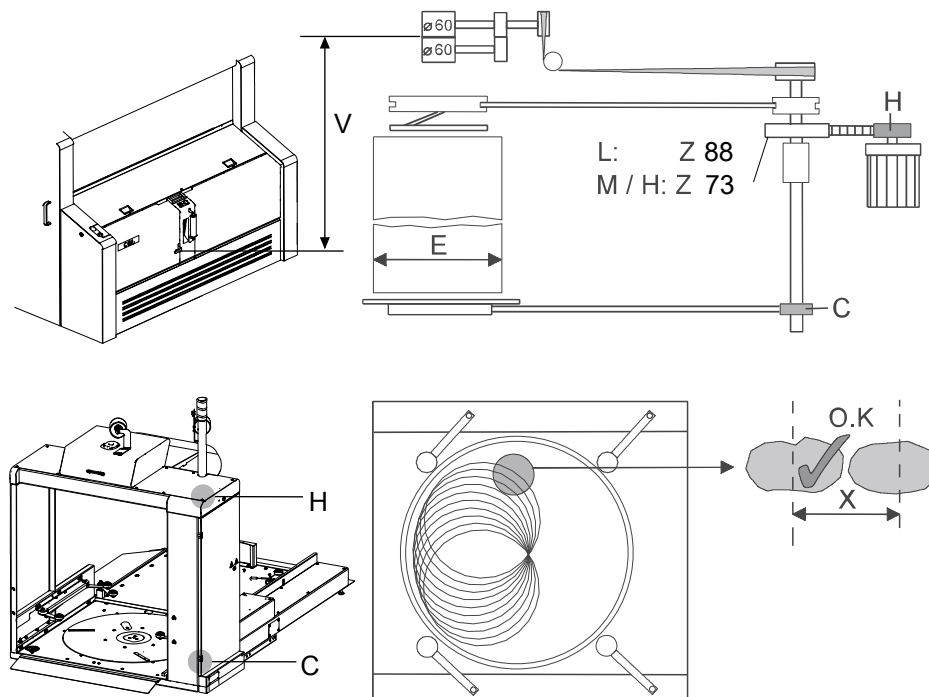


Figure 228: Gearing layout of the sliver coiling device CBA (Option: CBA-5)

V	Tension between the card and the coiler	H	Pulley
E	Can diameter	C	Can drive pulley
X	Winding distance		

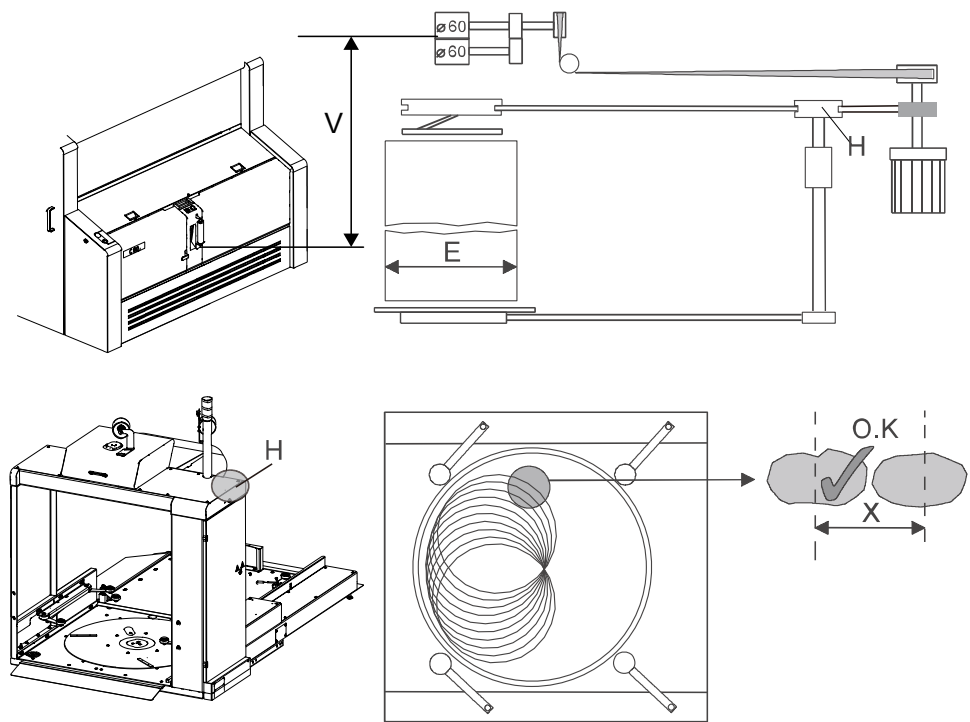


Figure 229: Gearing layout of the sliver coiling device CBA (Option: CBA 1200)

V	Tension between the card and the coiler	H	Pulley
E	Can diameter	X	Winding distance

Tension V between the Card and the Coiler			
Tension V	Pulley (H)		
	Cylinder Drive, Capacity L	Cylinder Drive, Capacity M	Cylinder Drive Capacity H
1.00	29	---	---
1.04	30	31	31
1.07 (Factory setting)	30	31	31
1.10	32	33	33
1.13	33	34	34
1.16	---	35	35

Winding Distance X			
Distance X (mm)	Material	Ø Can Drive Pulley (C) (mm)	
		1000 mm Can Diameter in the Delivery Unit	1200 mm Can Diameter in the Delivery Unit
22	Cotton	--	--
24	Cotton	91	91
32	Artificial fibers and blends	--	--
36	Artificial fibers and blends	--	--
40	Artificial fibers and blends	175	175

7.9 Machine Setting Sheets

This section contains the information about the machine setting sheets for different materials.

7.9.1 Machine Setting Sheets for Cotton

Maximum Production of 130 kg/h (cotton)

Machine setting sheet				C 80 pilot series			
Identification		Control panel		Control panel		Control panel	
Date		Production (kg/h)	up to 130	Opening roller speed (rpm)	850	Vacuum (Pa)	-700
Customer / Number		Sliver weight (tex)	Instruction	Licker-in speed (rpm)	1200	Temperature (°C)	
Recorded by		Delivery speed (m/min)	up to 400	Cylinder speed (rpm)	up to 574	Rel. humidity (%)	
Raw material	100% CO	Batt feed (kg/m)	700	Eject. dist. licker-in	50		
Spinning process	ing carded / combed	Can filling (kg)		Draft take-off/del. rol.	1.25		
Yarn count	Ne 16-40	Flat speed (m/min)	0.25	Draft card/coiler	1.05		
					1.08		
							Version of sheet 20191004

Special remarks:

Figure 230: Setting sheet for cotton with a maximum production of 130kg/h

Machine setting sheet										C 80 pilot series									
Identification					Control panel					Opening roller speed $\dot{A}$					Vacuum [Pa]				
Date					Production [kg/h]					up to 130					850				-700
Customer / Number					Sliver weight [tex]					Instruction					1200				Temperature [°C]
Recorded by					Delivery speed [m/min]					up to 400					up to 574				Rel. humidity [%]
Raw material					Chute batt weight [g]					700					50				
Spinning processing					Can filling [kg]										1.25				
Carded / combed					Flat speed [m/min]					0.25					1.05				Version of sheet
Yarn count					Me 16-40										1.08				20191004
Mechanical settings																			
Chute																			
C01 Fan speed [s]					65					L09 Distance licker-in/cylinder [mm]					0.300				C21 Position cylinder tongue
C02 Opening roller type					needle bars					L10 Distance suction pipe [mm]					5				C22 Distance wedge bottom [mm]
C03 Chute feed roller clothing					C0					Cylinder									
C04 Clamping distance [pairs]					10					C01 Clothing									Flat cleaning
C05 Spring force [pairs]					5					C02 Distance wedge pre carding zone [mm]									F01 Im. depth cl-roll.1 (PW1)
C06					left					C03 Clothing									F02 Dist. knife to cl-roll (P)
C07 Choke position [mm]					middle					C04 Distance wedge pre carding zone [mm]									F03 Dist. knife to cl-roll (P)
C08					right					C05 Distance wedge pre carding zone [mm]									F04 Slide shoe cleaning [mm]
C09 Spoiler [mm]					20					C06 Distance wedge pre carding zone [mm]									-1.00
C10					WS1					C07 Distance wedge pre carding zone [mm]									
C11					WS2					C08 Cover sheet pre carding zone [mm]									
C12 Mass density of material					normal, level2					C09 Flat clothing									Delivery
Infeed																			
I01 Staple length level [mm]					21					C10 Flat outlet [mm]									M-46301X1, 0-C
I02 Distance feed plate/licker-in					1.37					Flat setting [mm]									D02 Clothing take-off roller
I03 Distance feed plate/feed roller					1.37					C1/5 to C5/5									D03 Distance cylinder/doffer
I04 Spring tension dist. feed roller					48					C1/5 to C5/5									D04 Position doffer tongue [mm]
I05 Distance feedroller/licker-in					0.900					C1/5 to C5/5									10
I06 Dist. cov. prof. knife/feed					1.00					C1/5 to C5/5									0.225
Licker-in																			
L01 Clothing 1st Licker-in					1.725010V-12-E					C1/5 to C5/5									D06 Dist. doffer/take-off [mm]
L02 Clothing 2nd Licker-in										C1/5 to C5/5									2.60
L03 Clothing 3rd Licker-in										C1/5 to C5/5									D07 Draft doffer/take-off [mm]
L04 Pulley licker-in speed [s]					FU					C1/5 to C5/5									72.7
L05 Basic setting knife dist. (7)					0.700					C1/5 to C5/5									D08 Draft del. rollers/dis [mm]
L06 Ejection distance [mm]					50					C1/5 to C5/5									25
L07 Clothing stationary flats li					2x FD9A					C1/5 to C5/5									D09 Distance clearer roller [mm]
L08 Dist. stationary flats licker					0.600					C1/5 to C5/5									0.100
Sliver deposit																			
S01 Type										C1/5 to C5/5									
S02 Can size										C1/5 to C5/5									CEA-C80
S03 Sliver funnel [mm]										C1/5 to C5/5									1000
										C1/5 to C5/5									39

Figure 231: Setting sheet for cotton with a maximum production of 130kg/h

Maximum Production of 180 kg/h (cotton)

Machine setting sheet

Identification		Control panel		C 80 pilot series	
Date		Production (<i>kg/h</i>)	up to 180	Opening roller speed (<i>rpm</i>)	850
Customer / Number		Sliver weight (<i>g/row</i>)	Instruction	Licker-in speed (<i>rpm</i>)	1200
Recorded by		Delivery speed (<i>m/min</i>)	up to 430	Cylinder speed (<i>rpm</i>)	up to 600
Raw material	100% CO	Batt feed (<i>g/m</i>)	850	Eject. dist. licker-in	55
Spinning process	OE	Can filling (<i>kg</i>)		Draft take-off/del. rol.	1.25
Spinning count	№ 6-30	Flat speed (<i>m/min</i>)	0.25	Draft card/coiler	1.05
					2.00
					1.08
					Version of sheet
					20191004

The technical drawing shows a complex spinning machine with numerous components labeled with codes and values. The labels are as follows:

- Top Left:** ch01 65
- Top Center:** ch03 00, ch04 10, ch05 5, ch02 needle bars
- Top Right:** ch06 10, ch07 9, ch08 8, ch09 20
- Bottom Left:** F04 -1.00, F01 -1.50, F02 0.600, F03 0.800
- Bottom Center:** C07 1.800 2.050 0.500 0.750, C08 1.00, C10 1.30, C11 1.30, C12 1.20, C13 0.550 0.800 0.500 0.750, C14 0.550 0.800 0.500 0.750, C15 0.550 0.800 0.500 0.750, C16 0.550 0.800 0.500 0.750, C17 0.600 0.800 1.00, C18 1.50, C19 2.50, C20 1.50, C21 1.000, C22 2.50, C23 0.250, C24 0.250, C25 0.200, C26 0.225
- Bottom Right:** C06 0.500 0.700, C03 1.000 1.250, C02 1.000, C01 0.400, C05 0.550 0.750, C04 1.800 2.050 0.600 0.850, C09 0.400, C10 1.30, C11 1.30, C12 1.20, C13 0.550 0.800 0.500 0.750, C14 0.550 0.800 0.500 0.750, C15 0.550 0.800 0.500 0.750, C16 0.550 0.800 0.500 0.750, C17 0.600 0.800 1.00, C18 1.50, C19 2.50, C20 1.50, C21 1.000, C22 2.50, C23 0.250, C24 0.250, C25 0.200, C26 0.225
- Far Right:** D01 0.275, D02 0.225, D03 0.275, D04 10, D05 0.225, D06 2.60, D07 0.100, D08 0.300, D09 0.100, D10 0.300, D11 0.300, D12 6, D13 8, D14 9, D15 0.100, D16 0.100, D17 0.100, D18 0.100, D19 0.100, D20 0.100, D21 0.100, D22 0.100, D23 0.100, D24 0.100, D25 0.100, D26 0.100, D27 0.100, D28 0.100, D29 0.100, D30 0.100, D31 0.100, D32 0.100, D33 0.100, D34 0.100, D35 0.100, D36 0.100, D37 0.100, D38 0.100, D39 0.100, D40 0.100, D41 0.100, D42 0.100, D43 0.100, D44 0.100, D45 0.100, D46 0.100, D47 0.100, D48 0.100, D49 0.100, D50 0.100, D51 0.100, D52 0.100, D53 0.100, D54 0.100, D55 0.100, D56 0.100, D57 0.100, D58 0.100, D59 0.100, D60 0.100, D61 0.100, D62 0.100, D63 0.100, D64 0.100, D65 0.100, D66 0.100, D67 0.100, D68 0.100, D69 0.100, D70 0.100, D71 0.100, D72 0.100, D73 0.100, D74 0.100, D75 0.100, D76 0.100, D77 0.100, D78 0.100, D79 0.100, D80 0.100, D81 0.100, D82 0.100, D83 0.100, D84 0.100, D85 0.100, D86 0.100, D87 0.100, D88 0.100, D89 0.100, D90 0.100, D91 0.100, D92 0.100, D93 0.100, D94 0.100, D95 0.100, D96 0.100, D97 0.100, D98 0.100, D99 0.100, D100 0.100

Figure 232: Setting sheet for cotton with a maximum production of 180kg/h

Machine setting sheet										C 80 pilot series									
Identification					Control panel														
Date					Production (kg/h)					Opening roller speed (mm)	850				Vacuum (Pa)	-700			
Customer / Number					Sliver weight (g/m)					Licker-in speed (rpm)	1200				Temperature (°C)				
Recorded by					Delivery speed (m/min)					Cylinder speed (rpm)	up to 600				Rel. humidity (%)				
Raw material					Chute batt weight (g)					Eject. dist. licker-in	55								
Spinning process					Can filling (kg)					Draft take-off/del. ro	1.25								
Yarn count					Flat speed (m/min)					Draft card/coiler	1.05								
					Me 6-30						1.08								
Mechanical settings																			
Chute																			
c01 Fan speed (N)					65					L09 Distance licker-in/cylinder (mm)	0.400								
c02 Opening roller type					needle bars					L10 Distance suction pipe (mm)	5								
c03 Chute feed roller clothing					00					Flat cleaning									
c04 Clamping distance (points)					10					F01 Im. depth cl-roll.1 (PW1)	-1.50								
c05 Spring force (points)					5					F02 Dist. knife to cl-roll (P)	0.600								
c06					left	10				F03 Dist. knife to cl-roll (P)	0.800								
c07 Choke position (mm)					middle	9				F04 Slide shoe cleaning (mm)	-1.00								
c08					right	8				Delivery									
c09 Spoiler (mm)					20					M01 Clothing doffer	M-4630X1, 0-C								
c10 nge gears open. roller					W31	29				M02 Clothing take-off roller	+35-30-X1, 0-C								
c11 nge gears open. roller					W32	52 (50Hz)				M03 Distance cylinder/doffer	0.275								
c12 Mass density of material					normal level					M04 Position doffer tongue (mm)	10								
Infeed																			
M01 Staple length level (mm)					21					M05 Dist. doffer/take-off (mm)	0.225								
M02 Distance feed plate/licker-in					1.37					M06 Dist. take off/web bridge	2.60								
M03 Distance feed plate/feed rol					1.37					M07 Draft doffer/take-off #42	72.7								
M04 Spring tension dist. feed tr					48					M08 Draft del. rollers/di: #48	25								
M05 Distance feedroller/licker-in					0.900					M09 Distance clearer roller (mm)	0.100								
M06 Dist. cov. prof. knife/feed					1.00					M10 Dist. del. roll top/take-	0.300								
Licker-in																			
L01 Clothing 1st Licker-in					1.755010V-12-E					M11 Dist. delivery rollers	0.300								
L02 Clothing 2nd Licker-in										M12 Dist. cr. apron rol/del.	6								
L03 Clothing 3rd Licker-in										M13 Funnel (mm)	8								
L04 Pulley licker-in speed (2)					FU					M14 Disc rollers (mm)	9								
L05 Basic setting knife dist. (7)					0.700					M15 Dist. disc rollers (mm)	0.100								
L06 Ejection distance (mm)					55					Sliver deposit									
L07 Clothing stationary flats li					2x FD9A					S01 Type	CEA-C80								
L08 Dist. stationary flats licker					0.600					S02 Can size	1000								
										S03 Sliver funnel (mm)	39								

Figure 233: Setting sheet for cotton with a maximum production of 180kg/h

7.9.2 Machine Setting Sheets for Viscose

Maximum Production of 100 kg/h (Viscose)

Machine setting sheet				C7X Prototype			
Identification				Control panel			
Date	Customer / Number	Recorded by	Raw material	Production (kg/h)	Sliver weight (trec)	Delivery speed (m/min)	Batt feed (g/s)
			100% CV	100	5.9	282	700
Spinning process	Ring carded			Can filling (kg)			40
Yarn count	Ne 30			Flat speed (m/min)			0.20
				Opening roller speed (rpm)	850	Vacuum [Pa]	-700
				Licker-in speed (rpm)	1000	Temperature (°C)	
				Cylinder speed (rpm)	450	Rel. humidity (%)	
				Eject. dist. licker-in	45		
				Draft take-off/del. rol	1.25		
				Draft card/coiler	1.05		
					2.00		
					1.08		
							Version of sheet 20200624

Special remarks:

Figure 234: Setting sheet for viscose with a maximum production of 100kg/h

Machine setting sheet										C 80 pilot series									
Identification					Control panel														
Date	Customer / Number	Recorded by	100% CV	Ring carded	Production (kg/h)	100	Opening roller speed (mm)	850	Vacuum (Pa)	-700									
					Sliver weight (mg)	5.9	Licker-in speed (rpm)	1000	Temperature (°C)										
					Delivery speed (mm/min)	282	Cylinder speed (rpm)	450	Rel. humidity (%)										
					Chute batt weight (g)	700	Eject. dist. licker-in (mm)	45											
					Can filling (kg)	40	Draft take-off/del. ratio	1.25	2.00										
					Flat speed (mm/min)	0.20	Draft card/coiler	1.05	1.08	Version of sheet	20200624								
Mechanical settings																			
Chute					Cylinder					Flat cleaning					Delivery				
C01 Fan speed (s)	75	needle bars	C02 Opening roller type		L09 Distance licker-in/cylinder (mm)	0.300	C21 Position cylinder tongue	20											
C03 Chute feed roller clothing	MMF				L10 Distance suction pipe (mm)	5	C22 Distance wedge bottom (mm)	2.50											
C04 Clamping distance (prints)	10				C01 Clothing			K-2023110, E-81											
C05 Spring force (prints)	5				C02 Distance wedge pre carding zone (mm)			1.00											
C06	left 10.0				C03 Clothing	1	2	3	Edge Center	Rail	Edge	Center							
C07 Choke position (mm)	middle 9.5				C04 Flat clothing	1.	FD9C	FD24C	0.600	0.850									
C08	right 10.0				C05 Flat clothing	2.	FD9C	FD24C	0.500	0.700									
C09 Spoiler (mm)	20				C06 Flat clothing	3.	FD9C	FD24C	0.500	0.700									
C10	WS1 29				C07 Flat clothing	4.	FD9C	FD24C	0.500	0.700									
C11	WS2 52 (50Hz)				C08 Cover sheet pre carding zone (mm)	5.	FD9C	FD24C	0.500	0.700									
C12 Mass density of material (normal, level)					C09 Flat clothing				1.00				ILMT M-40/0						
C13	27				C10 Flat outlet (mm)				1.30										
C14	1.37				C11 Flat setting (mm)			C1/5	C2/5	C3/5	C4/5	C5/5							
C15	1.37				C12 Flat inlet grinding			0.250	0.200	0.200	0.175								
C16	51				C13 Flat inlet (mm)				1.30										
C17	0.900				C14 Cover sheet post carding zone (mm)				1.20										
C18	1.00				C15 Flat clothing	1	2	3	Edge Center	Rail	Edge	Center							
C19					C16 Flat clothing	1.	FD42B	FD42B	0.450	0.650									
C20					C17 Flat clothing	2.	FD42B	FD42B	0.450	0.650									
C21					C18 Flat clothing	3.	FD42B	FD42B	0.450	0.650									
C22					C19 Flat clothing	4.	Cover	Cover	1.000	1.200									
C23					C20 Flat clothing	5.	Cover		1.000	1.200									
C24	45				C21 Distance wedge post carding zone (mm)				1.00										
C25	2XFD9C				C22 Dist. cylinder tongue/cylinder (mm)				point										
C26	0.600				C23 Dist. stationary flats licker-in				base										
C27					C24 Sliver funnel (mm)				39										

Figure 235: Setting sheet for viscose with a maximum production of 100kg/h

7.10 Operation in Production Mode

7.10.1 Starting up the Machine

7.10.1.1 Starting the UNIcontrol Feed System

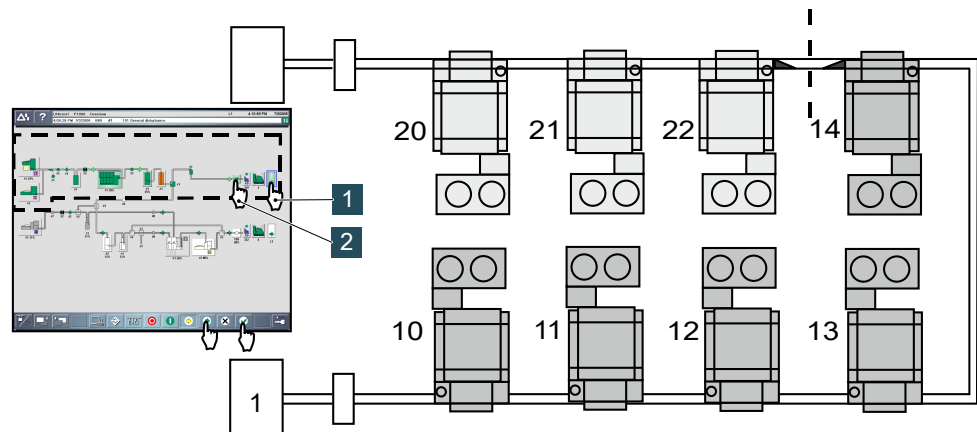


Figure 236: UNIcontrol feed system

Even if all the cards in a line are not required, the last cards of this line must still be placed in service and kept in operation.

If the system is started incorrectly, then blockages in the material transport pipes may occur as a result.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The card line is ready for production.
- ✓ The cards of the appropriate line are started.
- ✓ The doffers remain switched OFF.

1. Select the card line by pressing the button **2** on the UNIcontrol interface.
2. Start the material flow by pressing the button **1** on the UNIcontrol interface.
⇒ The material flow is started for the card line.
3. Put the line into operation, starting with the last card (14) of the respective line (sequence 14, 13, 12, 11, 10).

Result The UNIcontrol feed system is started.

7.10.1.2 Examining the Machine

1. Make sure that the personnel are at the safe distance from the machine.
2. Make sure that the safety devices of the machine are in operation.
3. Remove all tools and aids from the machine.

Result The machine is examined.

7.10.1.3 Setting the Production Mode

1. Select the data screen 4.1.5 **Operating mode change**.
2. Select the operating mode **Automatic mode**.
3. Make sure that the key switch is to the position I.

Result The production mode is set.

7.10.1.4 Closing the Doors and Hoods

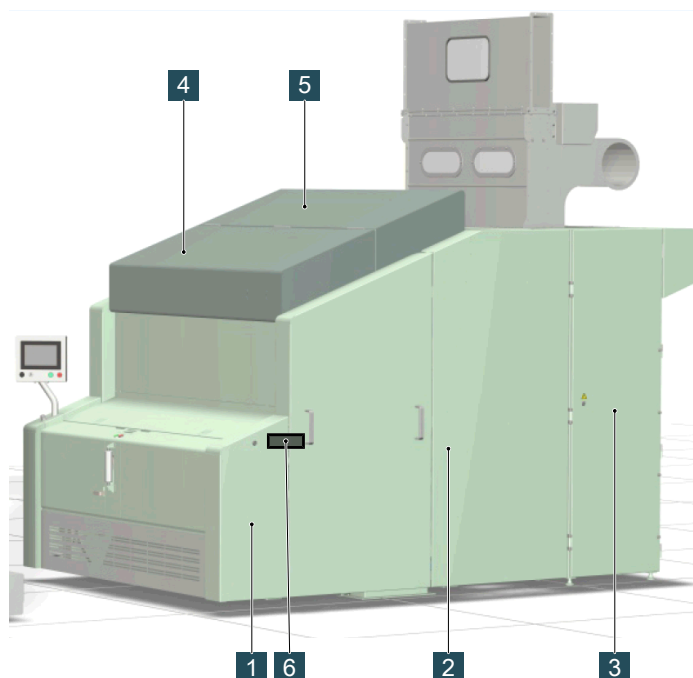


Figure 237: Doors and hoods

1. At 2 sides of the machine, close the delivery unit doors **1**.
2. At 2 sides of the machine, close the folding doors **2**.
⇒ The door **2** is mechanically locked with the locking mechanism **6**.
3. At 2 sides of the chute, close the electrical cabinet doors **3**.
4. Close the top hoods **4** and **5**.
5. Unlock the emergency stop button.

Result The doors at the card are closed.

7.10.1.5 Preparing the Sliver Coiling Device for the Production

1. Close the calendar rollers.
2. Close the hood.

3. Put in an empty can.

Result The coiler is prepared for the production.

7.10.1.6 Setting the Main Switch to the Position ON

Prerequisites Make sure that the criteria are obeyed:

- ✓ All the doors and covers are closed.
1. Set the main switch to the position ON.
 2. To open the main screen, tap the main screen.
 3. Select the necessary language in the data screen 3.1.3 **Languages**.
 4. Correct all faults messages if necessary.
 - ⇒ The message **Ready to start** is shown.
 - ⇒ The power supply is started.

Result The main switch is set to the position ON.

7.10.1.7 Starting the Compressed–Air Supply

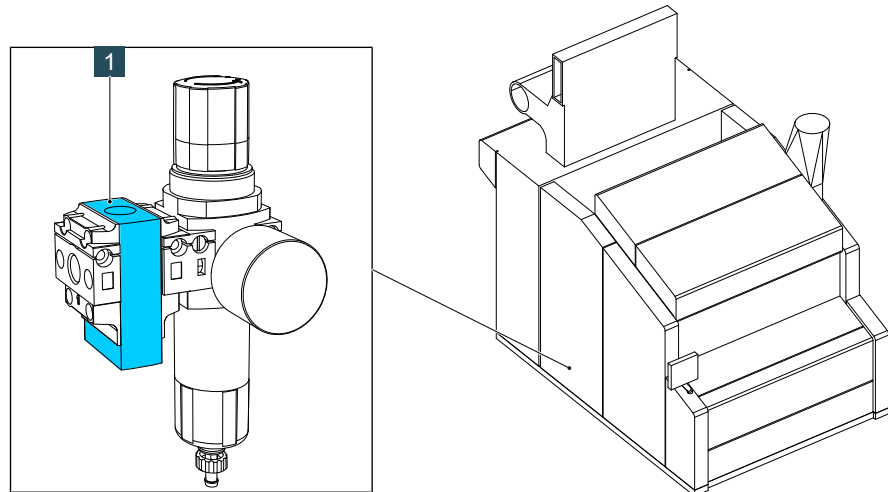


Figure 238: Pneumatic main valve

1. Open the left doors to get access to the pneumatic main valve.
2. Lower the slider **1** of the pneumatic main valve.

Result The compressed–air supply is started.

7.10.1.8 Setting the Pressure Regulator

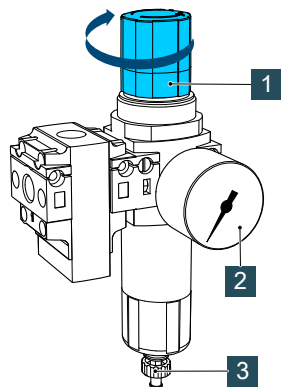


Figure 239: Adjustment of the work pressure for the card

1. Move up the control screw **1**.
2. Measure the pressure on the manometer **2**.
3. Make sure that the work pressure for the card is set to 6.0 bar .
4. If the pressure is low, turn the control screw **1** clockwise.
5. If the pressure is high, turn the control screw **1** counterclockwise.
6. When the pressure is correct, push down the control screw **1**.
 ⇒ The control screw **1** is locked.
7. Turn the drain plug **3** clockwise.
 ⇒ The condensed water is drained.
8. Turn the drain plug **3** counterclockwise.
 ⇒ The drain valve is closed.
 ⇒ The work pressure for the card is adjusted.

Result The pressure regulator is set.

7.10.1.9 Starting the Machine

Cylinder ramp-up time	
Cylinder drive with frequency converter	≤ xx s
Cylinder speed: xxx rpm	
Cylinder drive with frequency converter	≤ xx s
Cylinder speed: xxx rpm	

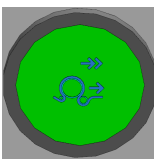


1. Push the start button.
 ⇒ The cylinder motor and the lick-in motor start.
 ⇒ The operation status icon turns in white color, work speed has been reached.

2. If the machine does not start, do the steps 3 and 4.
3. Notify the supervisor.
4. Check whether **Automatic mode** is set in the data screen 4.1.5.
5. If the power failure happens during the start phase, restore the grid power.
 - ⇒ When grid power is restored, the cylinder can be started again where it was before standstill.

Result The machine is started.

7.10.1.10 Starting the Production (Doffer at Slow Speed)



If the Feed Channel is Empty

1. Push the machine start button.
 - ⇒ The machine is started.
2. When the message **Ready to start** is shown, push the production start button.
 - ⇒ The chute starts to fill the feed channel, the message **Chute filling underway** is shown.
3. When the batt is ready in the feed channel, the message **Delivery creep speed** is shown.
4. Pull the sliver to the coiler. See *Pulling the Sliver into the Coiler* ► 262
5. Push the production start button again.
 - ⇒ The production changes to high speed.

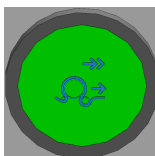
If the Feed Channel is Full

1. Push the machine start button.
 - ⇒ The cylinder and the licker-in roller start.
 - ⇒ The machine is started.
2. When the message **Ready to start** is shown, push the production start button.
 - ⇒ Production starts at slow speed.
 - ⇒ The message **Delivery creep speed** is shown.
3. Pull the sliver to the coiler. See *Pulling the Sliver into the Coiler* ► 262
 - ⇒ Light barrier at the coiler detects the card sliver.
 - ⇒ If a fault occurs when the sliver is pulled into the coiler, the card continues to operate at slow speed. If the time to correct the fault is more than 3 minutes, the doffer stops.
4. Push the production start button again.
 - ⇒ The production at high speed starts.

Result The production is started.

7.10.1.11 Starting the Production(Doffer at High Speed)

- Prerequisites** Make sure that the criteria are obeyed:
- ✓ The machine is operating at low speed.
 - ✓ The card sliver is put into the coiler.



If the Automatic acceleration is Set to Yes

1. Push the production start button.
 - ⇒ The machine operates to high speed for production.
 - ⇒ But if the sliver is not sensed between the disk rollers, the doffer stays at reduced speed.
2. Push the production start button again, the machine back to the slow speed production.
 - ⇒ The production start button is a toggle button between the high speed production and the slow speed production.

If the Automatic acceleration is Set to No

1. Push and hold the production start button.
 - ⇒ The machine operates in high speed.
 - ⇒ If the light scanner senses the sliver for approximately 3 seconds, the doffer operates at the specified delivery speed.
 - ⇒ But if the sliver is not sensed between the disk rollers, the doffer returns to reduced speed

7.10.2 Pulling the Sliver into the Coiler

- Prerequisites** Make sure that the criteria are obeyed:
- ✓ The machine is ready to start.
1. Push the production start button.
 - ⇒ The production is in creep speed.
 2. Swivel down the disk roller unit.
 3. Wait until the web comes out from the cross apron.
 4. For a good work condition of the delivery rollers, the user is recommended to clean the surface of the delivery rollers with the wet cloth.
 5. When the web comes out from the cross apron, put the end of web into the funnel and pull up the level of the blowing device at the same time.



Figure 240: Blowing the web into the funnel

- ⇒ The procedure should be down in a quick action.
- ⇒ The web will be blew into the funnel.
- ⇒ The sliver comes out from the disk roller unit.

6. Twist the end of the sliver to get a thin end as shown in below graphic.



Figure 241: A thin sliver end

7. Pull the sliver slowly through the guiding roll of the coiler.
8. Put the end of the sliver into the sliver funnel of the coiler.

Result The sliver is pulling into the coiler.

Production Stops after the Specified Time expired

If the sliver is not drawn in to the coiler after the specified time, the production stops.

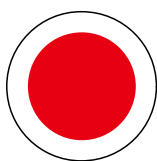
The user needs to push the production start button again to start the production in creep speed.

The specified time is shown in the field **Max. time production in creep speed:** in the data screen 2.3.1.5.

7.10.3 Stopping the Machine

7.10.3.1 Stopping the Production

Switch-off limit, delivery speed	20 – 400 m/min
Default	400 m/min



1. Push the production stop button 1 time.
 - ⇒ The doffer decreases speed to creep speed and stays at creep speed until the sliver breaks.
 - ⇒ The feed roll of the card is stopped, if the speed of the delivery section drops below the set value in data screen 2.3.1.7 **Extended settings 3**.
2. Tap the doffer stop key 2 times.
 - ⇒ The doffer stops immediately.
3. If the message **Chute filling underway** is shown, push the production stop button 1 time.
 - ⇒ The feed roll in the chute stops.

Result The production is stopped.

7.10.3.2 Stopping the Feed Roller



1. To stop the feed roller of the card, tap the key for stopping the feed roller.
 - ⇒ No new material is supplied to the card.
 - ⇒ The machine is empty.

Result The feed roller of the card is stopped.

7.10.3.3 Making the Lower of the Feed Channel and the Card Empty



1. Tap the key for emptying the feed channel and card.
 - ⇒ The feed roller in the chute stops.
 - ⇒ No more material is supplied to the feed channel.
 - ⇒ The card continues to operate until the sliver breaks.

Result The feed channel and the card are emptied.

7.10.3.4 Making the Line Empty

This operating state is not suitable for normal machine operation. The monitoring units for filling the card chute, the batt thickness in the feed channel, and the sliver weight in the delivery are no longer active.



1. To empty the line, tap the key for emptying the line.
 - ⇒ If the UNImix is set to emptying mode, the card continues to operate until the sliver breaks.
 - ⇒ The AEROfeed line is empty.

Result The line is emptied.

7.10.3.5 Stopping the Machine

Brake Time for the Cylinder

XX rpm	≤ XX s
XX rpm	≥ XX s

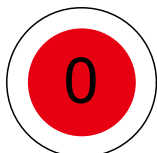


NOTICE

Machine damage!

The main switch is set to the position OFF during machine operation.

- ▶ Stop the machine with the stop key.
- ▶ Set the main switch to position OFF only after the machine is at a standstill.



1. Push the machine stop button.
 - ⇒ The feed rollers stop immediately.
 - ⇒ The doffer continues to operate until the sliver breaks.
 - ⇒ The doffer is stopped when the sliver monitor records the history of sliver.
 - ⇒ The drives of the cylinder and the licker-in are stopped.
 - ⇒ The machine can be started again, if the stop procedure has not completed.
2. Wait until the machine is at a standstill.
3. Set the main switch to the position OFF.
4. Padlock the main switch.

Result The machine is stopped.

7.10.3.6 Setting the Main Switch to the Position OFF

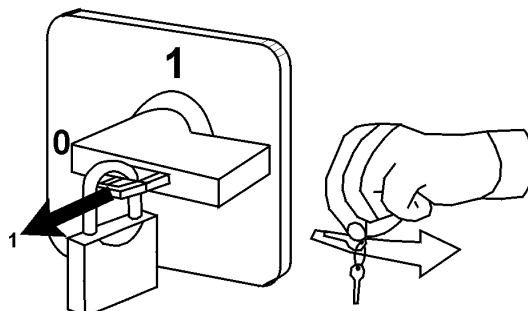


Figure 242: The padlocked main switch

1. Make sure that the machine is at a standstill.
2. Set the main switch to the position OFF (0).
3. Padlock the main switch.
4. Remove the key.
5. Keep the key safely.

Result The main switch is set to the position OFF.

7.10.3.7 Stopping the Compressed-Air Supply

1. To cut the compressed-air supply, move up the slider **1**.
 ⇒ Compressed air supply is cut off.

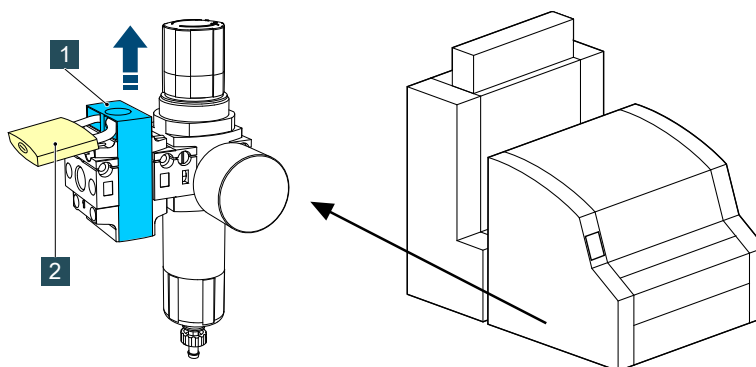


Figure 243: Primary valve with a padlock

2. Attach the slider into the highest position with a padlock **2**.
 ⇒ Compressed air supply is cut off and secured.

Result The compressed-air supply is stopped.

7.10.3.8 Stopping the Feed System UNIcontrol

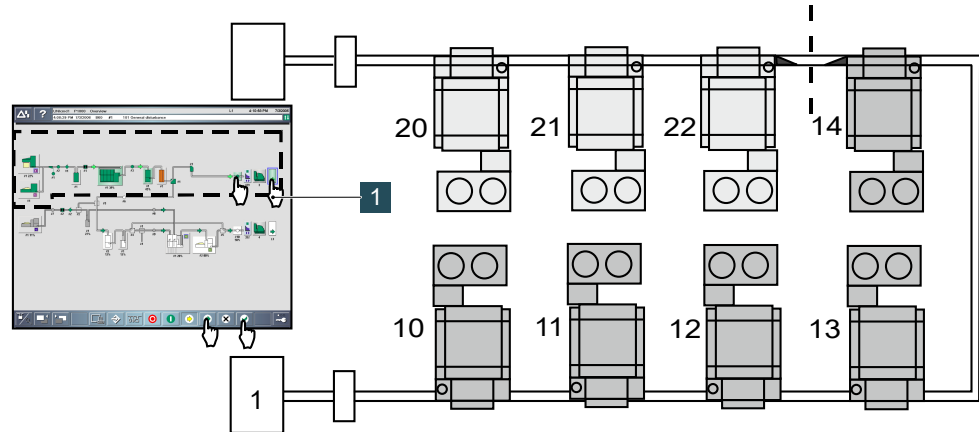


Figure 244: UNIcontrol system

This procedure is described in detail in the operating manual for the UNIcontrol unit.

Prerequisites Make sure that the criteria are obeyed:

- ✓ Feed system continues to run.
- 1. First stop the doffers, one after the other, starting with the first card (10)
- 2. Stop the respective doffers of the line and follow the sequence 10, 11, 12, 13, 14.
- 3. Do NOT switch OFF the material flow until all the doffers are stopped.

Result The UNIcontrol feed system is stopped.

7.11 Setting the Machine into Operation

This chapter contains instructions to set the machine referring to the different machine components.

7.11.1 Setting the Production Values

This section contains the information about how to set the production values.

7.11.1.1 Preparing the Machine

Prerequisites Make sure that the criteria are obeyed:

- ✓ The machine is ready for operation.
- ✓ After maintenance task, commissioning of the machine without material is done.
- ✓ The machine is set into operation with material.

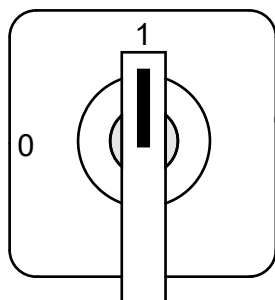


Figure 245: Main switch

1. Set the main switch to the position ON.
⇒ The switch is in the position of the operation.

Result The machine is prepared.

7.11.1.2 Entering the Production Quantity

1. Select the production quantity refer to the machine setting sheet. See *Machine Setting Sheets* ▶ 250
2. Select the data screen 2.1.1 **Production Nominal values** .
3. Enter the quantity in the field **Production**.
⇒ Production is aligned to the correct quantity.
⇒ The delivery speed is calculated.

Result The production quantity is entered.

7.11.1.3 Entering the Can Fill Quantity

The can fill quantity is possible to be entered by sliver weight or by sliver length. The sliver weight and the sliver length interact with each other.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The sliver weight is given.

Can fill quantity	≤ 80 kg
-------------------	---------

1. Select the data screen 2.1.1 **Production Nominal values** .
2. Enter the sliver weight in the first field of **Can filling**.
⇒ The sliver weight is matched to the volume of the can. .
⇒ The sliver length is calculated.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The sliver length is given.

Can fill quantity	≤ 9 999 m
-------------------	-----------

1. Select the data screen 2.1.1 **Production Nominal values** .

2. Enter the sliver length in the second field of **Can filling**.
 - ⇒ The sliver length is matched to the volume of the can.
 - ⇒ The weight is calculated.

Prerequisites Make sure that the criteria are obeyed:

- ✓ After the can fill quantity is changed, the parameters that follows are necessary to be examined.
1. The warning –set empty can. See *Doing the Configuration of the Sliver Coiling Device* ▶ 275
 2. Correct the can fill quantity. See *Correcting the Can Fill Quantity* ▶ 396

Result The can fill quantity is entered.

7.11.1.4 Adjusting the Cylinder Speed

This section contains the information about the how to adjust the cylinder speed.

Refer to the setting sheet to select the correct cylinder speed. See *Machine Setting Sheets* ▶ 250

1. Enter the password of the authorization level 1.
2. Select the data screen 2.1.3 **Nominal Values of Work Elements** .
3. Enter the speed in the field **Cylinder speed** .

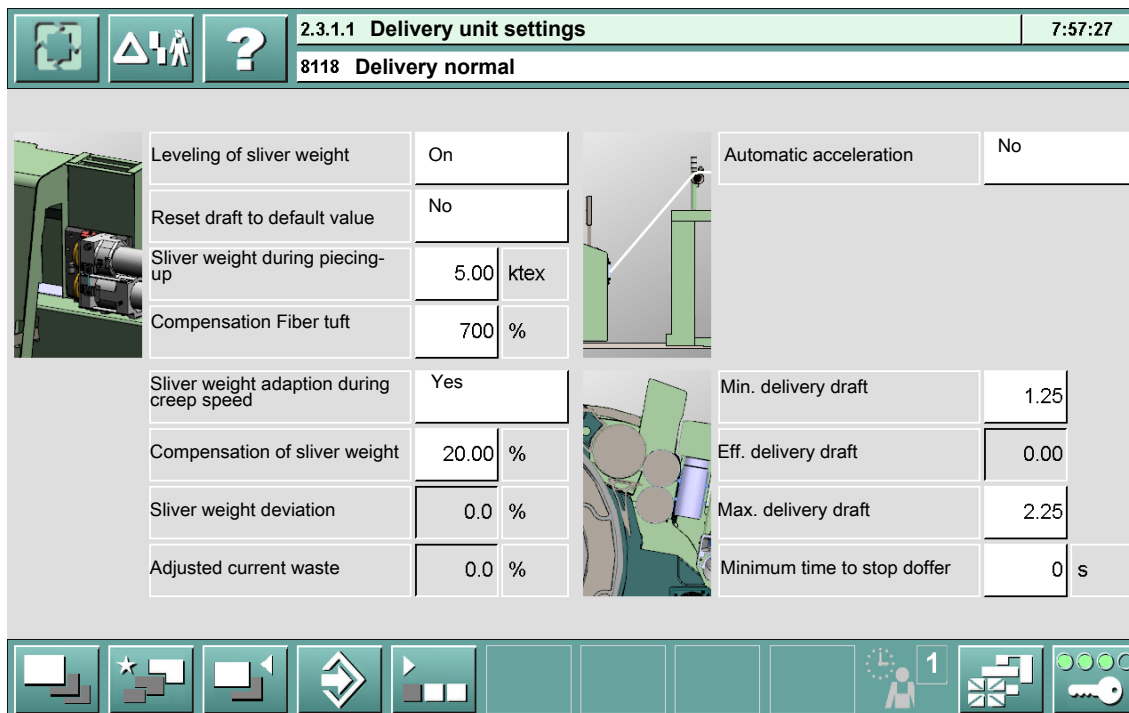
Result The cylinder speed is adjusted.

7.11.1.5 Adjusting the Licker-In Speed

1. Refer to the setting sheet to select the correct licker-in speed. See *Machine Setting Sheets* ▶ 250
2. Enter the password of the authorization level 1.
3. Select the data screen 2.1.3 **Nominal values Work elements**.
4. Enter the speed in the field **Licker-in speed** .

Result The licker-in speed is adjusted.

7.11.1.6 Setting the Card Delivery



2.3.1.1 Delivery unit settings		7:57:27
8118 Delivery normal		
Leveling of sliver weight	On	
Reset draft to default value	No	
Sliver weight during piecing-up	5.00	ktex
Compensation Fiber tuft	700	%
Sliver weight adaption during creep speed	Yes	
Compensation of sliver weight	20.00	%
Sliver weight deviation	0.0	%
Adjusted current waste	0.0	%
Automatic acceleration	No	
Min. delivery draft	1.25	
Eff. delivery draft	0.00	
Max. delivery draft	2.25	
Minimum time to stop doffer	0	s

Figure 246: Data screen 2.3.1.1 settings card delivery

Delivery draft

Draft: min	1.15 - 1.4 (Draft in creep speed)
Draft: max	1.4 – 2.8 (Draft at maximum speed)
Draft: eff	Draft at set speed

1. Enter the password of the authorization level 1.
2. Select the data screen 2.3.1.1 **Delivery unit settings**.
3. Select the option **ON** in the field **Levelling sliver weight**.
4. Select the option **ON** in the field **Automatic acceleration**.
5. Set the delivery draft in the field **Delivery draft**.
6. Select the option **Yes** in the field **Reset to setup draft** to start the function.
⇒ The autoleveling drafting system is set to the specified value.

Result The card delivery is set.

7.11.1.7 Setting the Sliver Weight during the Drawing-In

Coiler CBA	Default Sliver Weight
Disk roller, width: 9 mm	4.0 – 12.0 ktex
Disk roller, width: 15 mm	8.0 – 20.0 ktex

1. Select the data screen 2.3.1.1 **Delivery unit settings**.
2. Set the sliver weight in the field **Sliver weight during piecing-up**.
⇒ The card sliver is easily pulled in with the injector function.

Result The sliver weight during drawing-in is set.

7.11.1.8 Doing the Configuration of the Feed Unit and the Cylinder

For Feed safety device threshold

Feed protection switch-off point - feed roller.	110 – 250 %
Cotton	120 %
Polyester or blends	130 %

For Monitoring of cylinder speed

Tolerance – monitoring cylinder turning speed	0.8 – 10 %
Guide value	1 %

For Cylinder behavior after power outage

Automatic braking	Cylinder braking is automatic.
Brake/start manually	Cylinder braking or reacceleration is manual.

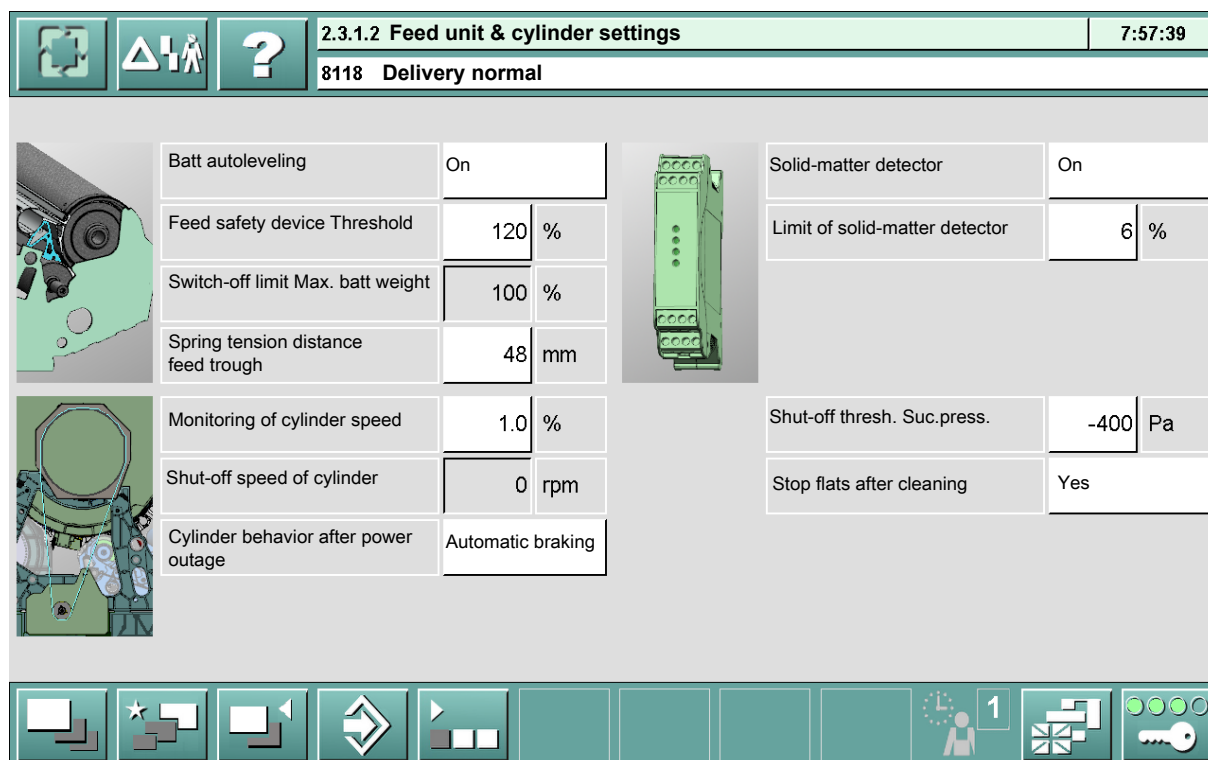


Figure 247: Data screen 2.3.1.2 feed unit & cylinder settings

1. Enter the password of the authorization level 3.
2. Select the data screen 2.3.1.2 **Feed unit & cylinder settings**.
3. Select the option **ON** or the option **OFF** in the field **Batt autoleveling**.
 - ⇒ If the option **ON** is selected, the short-term feature in the card feed is started. The frequency converter changes the speed of the feed roller motor based on the signals from the feed measuring device.
 - ⇒ If the option **OFF** is selected, the short-term feature in the card feed is stopped. The speed of the feed roller is constant.
4. To enter the necessary switch-off point in the field **Feed safety device threshold**, refer to the table above.
 - ⇒ If an unwanted object is in the batt, the feed roller is stopped.
5. Enter the spring tension distance of the feed trough. See *Setting the Preload of the Feed Plate* ▶ 307
6. To enter the tolerance in the field **Monitoring of cylinder speed** refer to the above table.
7. To select the necessary braking in the field **Cylinder behavior after power outage**, refer to the above table.

Result The configuration of the feed unit and the cylinder is done.

7.11.1.9 Doing the Configuration of the IGS

For Lifetime of clothing in the group IGS-classic (Cylinder)

Service life of the cylinder clothing	100 – 4 000 t
---------------------------------------	---------------

For End of service life

Stop grinding	The grinding is stopped after the grinding budget is contracted.
Contin. grinding	Grinding will continue, until the double of cycles of the origin budget is reached. But max. 400 cycles.

For Grinding budget

≤ 750 t	270
≥ 750 t	400

For Lifetime of clothing in the group IGS-top (Flats)

Service life of the card flats clothing	100 – 4 000 t
---	---------------

For Grinding time/life

Grinding interval is aligned to service life.	2 – 8 min
Guide value	5 min

2.3.1.3 IGS settings		7:57:51
8118 Delivery normal		
IGS-classic (Cylinder)		
Lifetime of clothing	900	t
End of service life	Contin. grinding	
Grinding budget	400	Cycles
IGS-top (Flats)		
Lifetime of clothing	900	t
End of service life	Contin. grinding	
Grinding time/life	5	min

Figure 248: Data screen 2.3.1.3 IGS settings

1. Enter the password of the authorization level 3.
2. Select the data screen 2.3.1.3 **IGS settings**.
3. Set the value of **Lifetime of clothing** in the group **IGS-classic (Cylinder)**.
⇒ The assignment of the cycle budget is determined by **Lifetime of clothing** and **Cylinder drive** that is selected in the data screen 3.3.3 **Machine configuration**.
4. To select the status of the IGS system in **End of service life**, refer to the table above.
5. Read the new calculated number of the grinding cycles in **Grinding budget**.
6. Set the value of **Lifetime of clothing** in the group **IGS-top (Flats)**.
7. Set the **End of service life** in the group **IGS-top (Flats)**.
8. Set the **Grinding time/life** in the group **IGS-top (Flats)**.

Result The configuration of the IGS is done.

7.11.1.10 Doing the Configuration of the Sliver Coiling Device

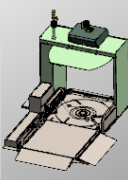
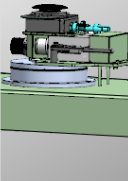
2.3.2.1 Coiler Settings I		7:59:16	
8118 Delivery normal			
	Empty can warning	5000	m
	Deliv. can change, card	150	m/min
	Draft card to coiler	1.05	...
	Can change sliver channel blow-in time	1	min
	Max. time, funnel to top	2.0	s
	Length of sliver separation	0.01	s
	Man. can change, lower speed	On	
		25	mm

Figure 249: Data screen 2.3.2.1 settings coiler I

1. Enter the password of the authorization level 1.
2. Select the data screen 2.3.2.1 **Settings coiler I**.

Setting the Time for Empty Can Warning

1. Enter the sliver length in the field **Empty can warning**.
2. If the early time point of the warning message is wanted, enter the sliver length as 10 % of the can filled.
3. If the late time point of the warning message is wanted, enter the sliver length as 80 % of the can filled.
 - ⇒ If the set sliver length is reached, the signal light flashes until a reserve empty can is pushed in.

Setting the Speed for Normal Can Change

1. Enter the delivery speed in the field **Deliv. can change, card** in the data screen 2.3.2.1 **Settings coiler I**.
 - ⇒ The maximum delivery speed during the can change is same as the delivery speed in the production operation.
2. Monitor the can change.

3. If faults occur frequently during can change, decrease the delivery speed in the field **Deliv. can change, card** to creep speed.

⇒ The delivery speed during the normal can change procedure is set.

Setting the Speed for Manual Can Change

1. Select the option **On** in the field **Man. can change, lower speed**.
⇒ Before the manual can change procedure, the delivery speed is lowered to the speed set in the field of **Man. can change, lower speed**.
2. If the can must be changed at full delivery speed, select the option **Off** in the field **Man. can change, lower speed**
⇒ The delivery speed keeps same as the full production speed during the manual can change procedure.
⇒ Possible sliver breakage will happen.

More Tasks of Doing the Configuration

1. Correct the can fill quantity. See Correcting the Can Fill Quantity
2. Adjust the lift sliver funnel monitor. See Adjusting the Sliver Funnel
3. Set the clamping time interval. See Adjusting the Sliver Funnel
4. Adjust the air injector of the sliver coiling device. See Adjusting the Air Injector of the Sliver Coiling Device

Result The sliver coiling device is configured.

7.11.1.11 Doing the Configuration of the Delivery Unit

2.3.1.1 Delivery unit settings		7:57:27
8118 Delivery normal		
Leveling of sliver weight	On	
Reset draft to default value	No	
Sliver weight during piecing-up	5.00	ktex
Compensation Fiber tuft	700	%
Sliver weight adaption during creep speed	Yes	
Compensation of sliver weight	20.00	%
Sliver weight deviation	0.0	%
Adjusted current waste	0.0	%
Automatic acceleration	No	
Min. delivery draft	1.25	
Eff. delivery draft	0.00	
Max. delivery draft	2.25	
Minimum time to stop doffer	0	s

Figure 250: Data screen 2.3.1.1 delivery unit settings

1. Enter the password for the level 1.
2. Select the data screen 2.3.1.1 **Delivery unit settings**.

Starting the Autoleveler

1. Select **ON** in **Leveling of sliver weight**.

Setting the Draft between Take-off Roller and Delivery Roller

1. To set the **Delivery draft**, refer to the table below.

Delivery draft	
Draft: min	1.15 - 1.4 (Draft in creep speed)
Draft: max	1.4 - 2.4 (Draft at maximum speed)
Draft: eff	Draft at set speed

Setting the Delay of the Autoleveler

1. Select **Yes** in **Reset draft to default value** to start the function.
 ⇒ The autoleveling drafting system is set to the specified value.

Result The configuration of the delivery unit is done.

7.11.1.12 Correcting the Sliver Weight

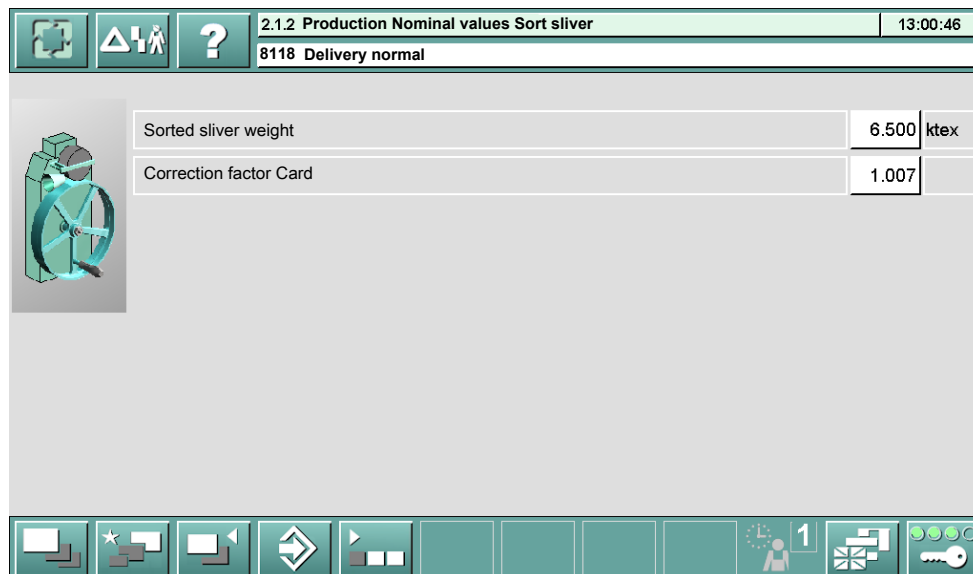


Figure 251: Data screen 2.1.2 sort sliver

1. Enter the password of the authorization level 1.
2. Put the machine in production for 15 minutes.
3. Sort 10 meters of the produced sliver by 5 times.
4. Weigh the 5 pieces of sorted sliver in laboratory.
5. Calculate the average sliver weight for the sorted slivers.
 - ⇒ The actual sliver weight is calculated.
6. If the actual sliver weight is different from the target sliver weight, enter the actual weight in the field **Sorted sliver weight**.
 - ⇒ The system calculates the correction factor in the field **Correction factor Card**.
 - ⇒ The system corrects sliver weight according to the correction factor that is shown in the field **Correction factor Card**.
7. If the actual sliver weight is the same as the target sliver weight, record the set **Correction factor Card** that is in the range of 0.5 to 1.5.
 - ⇒ The correction factor in the field **Correction factor Card** is correct.
 - ⇒ If the data loss occurs, the actual correction factor in the field **Correction factor Card** is kept as a back-up and is entered again.

Result The sliver weight is corrected.

7.11.1.13 Setting the Switch-Off Delay of the Doffer in the Slow Speed to the Maximum

Setting the Maximum Switch-off Delay

Creep speed timeout	1 – 10 min
Default	3

1. Select data screen 2.3.1.5 **Extended settings 1** .

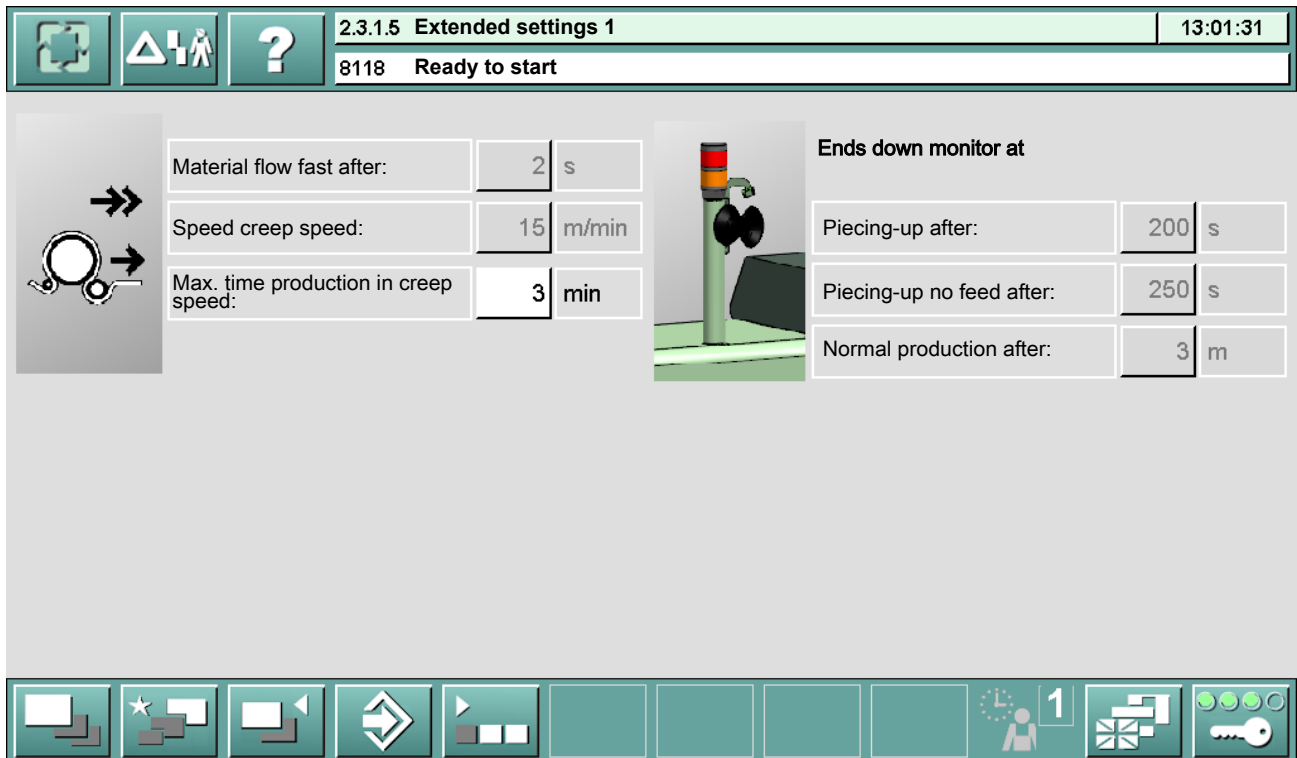


Figure 252: Data screen 2.3.1.5 settings extended 1

2. Read the current switch-off delay in the field **Max. time production in creep speed:** .
⇒ The current switch-off delay is noted and can be set later.
3. Set the maximum switch-off delay in the field **Max. time production in creep speed:**.
⇒ The maximum switch-off delay is set.

Result The switch-off delay of the doffer in the slow speed to maximum is set.

7.11.2 Setting the Material Feed with the AEROfeed

This section contains the information about how to set the material feed with the AEROfeed.

7.11.2.1 Adjusting the Air Ratios in a Card Line

To set the air ratios in a card line correctly, refer to the operating manuals of the Blowroom machines.

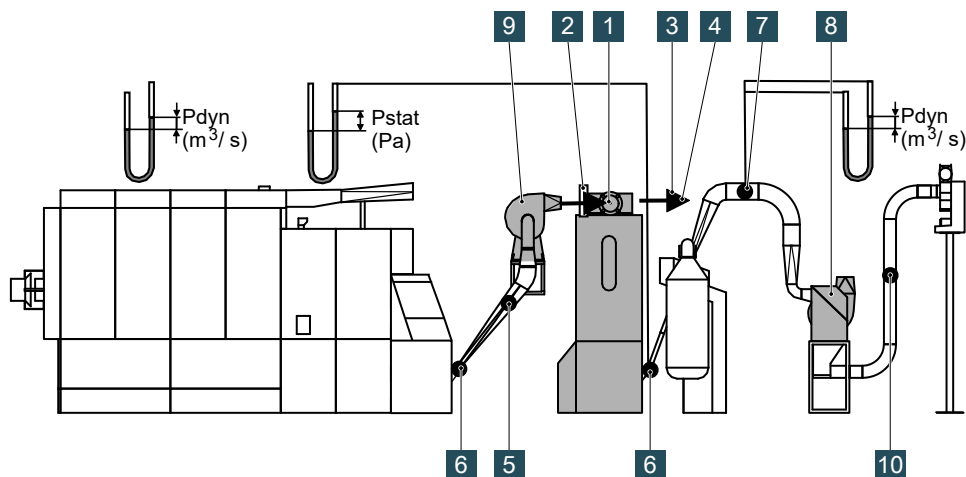


Figure 253: Adjustment of the air ratios

- | | |
|----|---|
| 1 | Air volume at the entry point |
| 2 | Vacuum at the waste extraction point
Exhaust air volume at the waste extraction point |
| 3 | Air volume at the air exit point from the storage unit |
| 4 | Vacuum pressure at the measuring point at air exit from the storage unit |
| 5 | Air volume at the material supply point (design with cone) |
| 6 | Vacuum pressure on the measuring point (design with duct) |
| 7 | Air volume at the measuring point (design with duct) |
| 10 | Air volume at the measuring point (maximum production 600 kg): 0.4 – 0.6 m³/s
Air volume at the measuring point (maximum production 1200 kg): 0.8 – 1.0 m³/s |

- Adjust the suction unit **8** and the fan **9**, to keep specified equal air ratios.
⇒ The air ratios adjustments have influence on the full card line.

Result The air ratios in a card line are adjusted.

7.11.2.2 Acceleration Sliders and Separation Sliders

To change the speed of the air in the air feed system, the acceleration sliders **2** are used. If the cross section area of the feed channel is less, the air speed increases. The high-speed air moves the material to more remote card chutes. The purpose of the acceleration slides is to achieve a uniform distribution of the material on all card chute.

The initial acceleration slider **2** is at the lowest point of the machine. For the other acceleration sliders, the dimension **3** continuously increases. The dimension **3** for the last acceleration slider **2** is in the range of 150 mm to 200 mm.

Single Assortment Feed

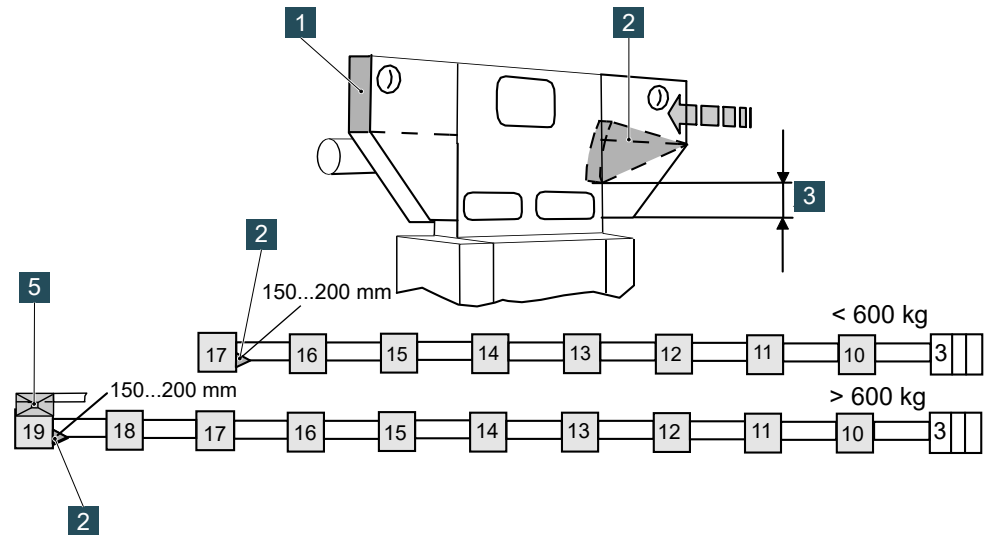


Figure 254: Single assortment feed

A cover **1** seals the feed duct immediately after the last card chute.

For the standard cross section (production capacity < 600 kg/h), see the figure above.

For the jumbo cross section (production capacity > 600 kg/h), in the card line, one more air separator **5** is installed on the last card. See Setting the Air Separator

Two Assortment Feed

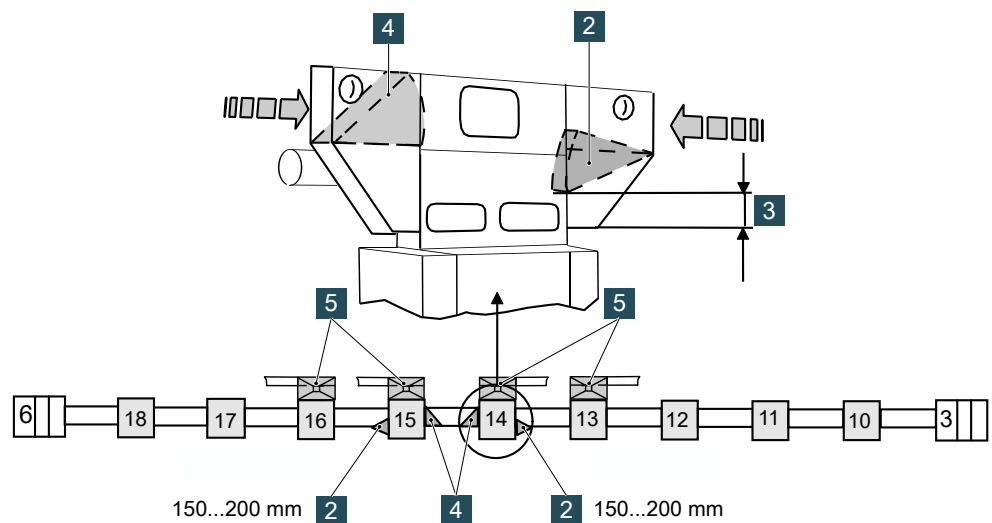


Figure 255: Card line with 2 feed inlets

When the feed is from 2 sides of the machine, the sliders are used for separation as well as for acceleration.

With the separation sliders **4**, the cards can be allocated to the respective feed system. The configuration of the system is specified when the order is placed.

7.11.2.3 Setting the Air Separator

This section contains the information about how to adjust the last air separator.

Air should only be separated at the last air separator **1**.

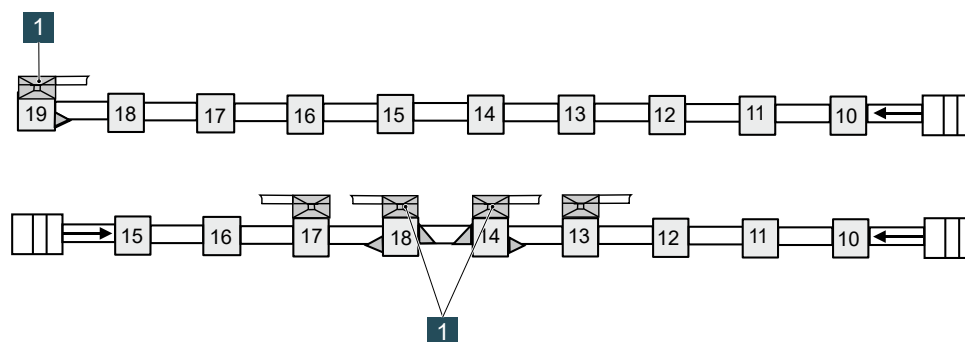


Figure 256: Air separator

Adjusting the Last Air Separator (Open)

1. Switch off the fan of the AEROfeed unit.
2. Remove the window **5** to get access to the flap **3**.

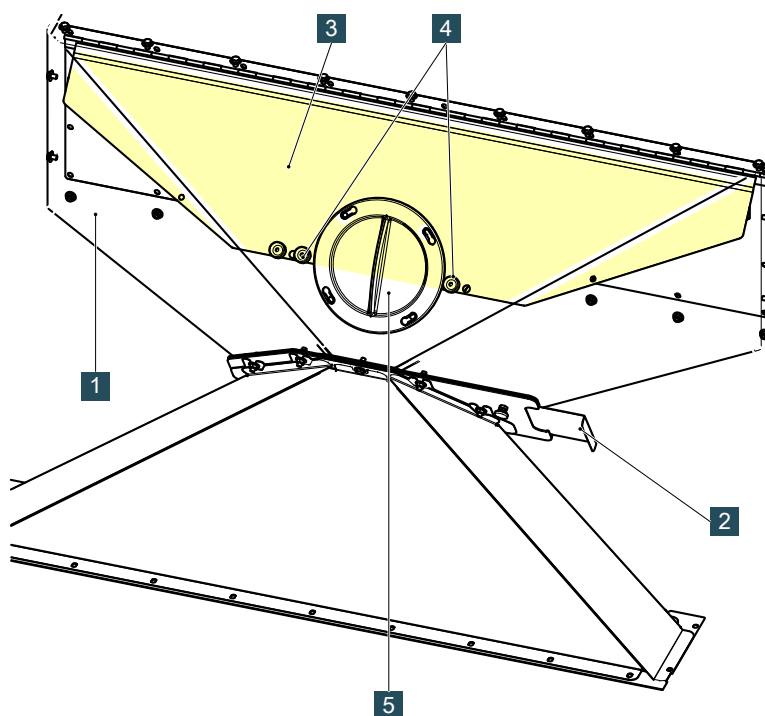


Figure 257: Air separator of the card line

3. Loosen the 3 pieces of nuts **4**.
4. Open the flap **3**.
5. Attach the flap **3** on the external side of the channel.
⇒ The flap **3** is opened.
6. Open the slider **2** in the position '3'.
7. If the material transport is stopped, lightly increase the opening of the slider **2**.
⇒ The last separator adjusted.

Adjusting the Other Air Separators (Closed)

1. Switch off the fan of the AEROfeed unit.
2. Remove the window **5** to get access to the flap **3**.
3. Close the flap **3**.
4. Tighten the 3 pieces of nuts **4**.
⇒ The flap **3** is closed.
5. Close the slider **2** in the position '0'.
⇒ The slider **2** is closed.

Result The air separator is adjusted.

7.11.2.4 Adjusting the Fill Height in the Feed Chute

1. Start the feed system UNicontrol.
⇒ The blowroom line is ready for the operation.
2. Switch off the material feed.

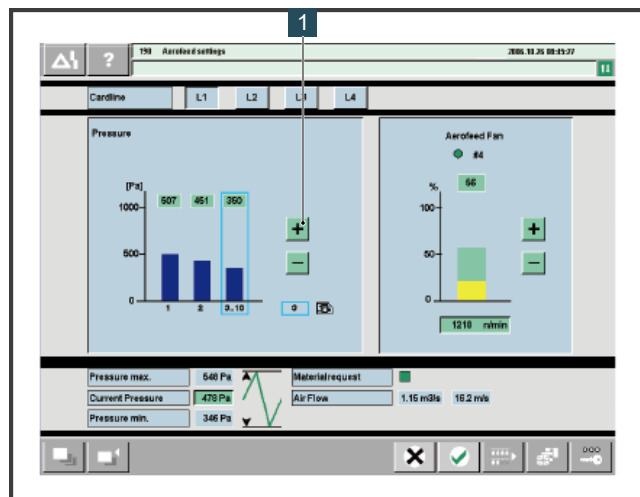


Figure 258: Operating unit of UNicontrol

3. Set the switch point at a higher value with the key **1** in the operating unit of the UNIconrol.
 - ⇒ The material is not supplied to the card chute.
4. Start production at high speed.

Adjusting the Switch Point

1. Decrease the switch point in the operating unit of the UNIconrol.
 - ⇒ The feed starts.
 - ⇒ The feed chutes are filled.
 - ⇒ The pressure in the feed line increases slowly.
2. Examine the material level in the window **2**.
3. Make sure that the AEROfeed is filled to the lower edge of the window for the cotton.
4. Make sure the AEROfeed is filled to the middle of the window for the man-made fibers.

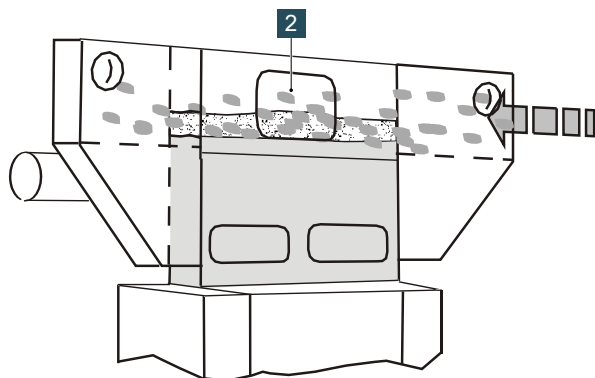


Figure 259: Window to examine the material level

5. If the fill level is too high, decrease the switch point.
6. If the fill level is too low, increase the switch point.
7. Start all the card machines in this system.
8. Adjust the fill level again if necessary.

Result The fill height in the feed chute is adjusted.

7.11.2.5 Adjusting the False Air for the Exhaust Air

The filter device uses exhaust air which is blown from transport fan to the feed system from the transport fan. Variations in the suction power in this filter installation are evened out by the open transfer of the transport air.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The false air quantity 50 – 150 Pa is necessary at point **1**.

1. Make sure that at the air inlet **3** the air that contains dust does not blow out.

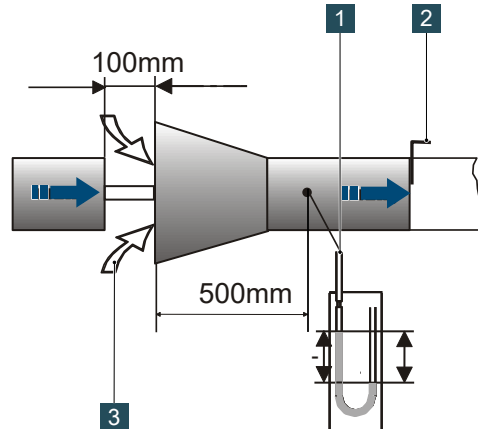


Figure 260: False air for the exhaust air

2. Decrease the suction power through gate position **2**, to cause the false air at point **1**.

Result The false air is adjusted for the exhaust air.

7.11.3 Setting the Suction

This section contains the information about how to set the suction.

7.11.3.1 Adjusting the Vacuum Pressure for the Card Suction

The instruction that follows is an example of the setting for 8 cards in a line.

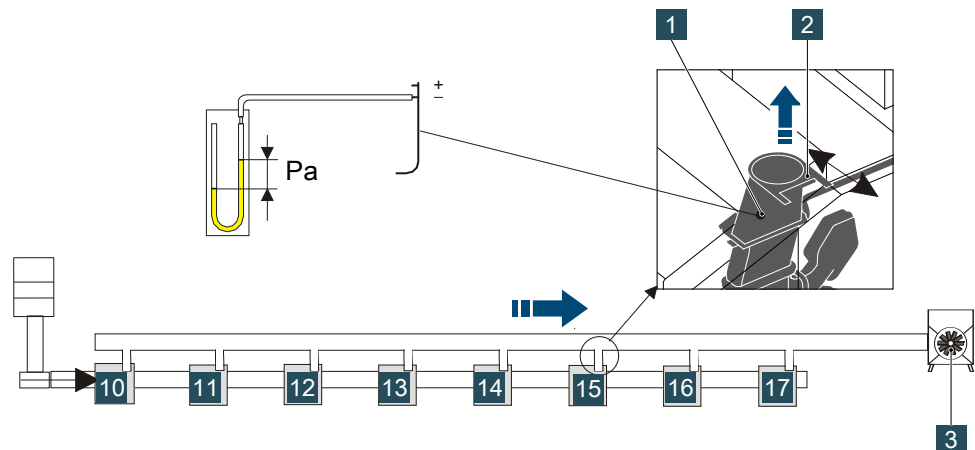


Figure 261: Adjustment of the vacuum pressure for the card suction

Vacuum range at the point 1 of the card	1 150 ±150 Pa
--	---------------

Prerequisites Make sure that the criteria are obeyed:

- ✓ A U-tube is to be used.

- ✓ The AEROfeed unit and the filter system are in operation.
- 1. Measure the vacuum pressure at the point **1** with the U-tube.
- 2. Make sure that the vacuum is in the given range for the card **17**, which is the nearest card to the filter system **3**.
- 3. Set the vacuum for cards **10** to **16** with the slide valve **2**.

Result The vacuum pressure for the card suction is adjusted.

7.11.4 Setting the Card Chute

This section contains the information about how to set the card chute.

7.11.4.1 Adjusting the Airflow at the Card Chute

Examining the Batt in the Feed Channel

Prerequisites Make sure that the criteria are obeyed:

- ✓ The machine is in the operation.
- 1. Open the folding door at the left side of the machine.
- 2. Monitor the batt status through the window of the bottom feed channel.
- 3. If the batt status is like the status **5**, the batt is in a good condition.

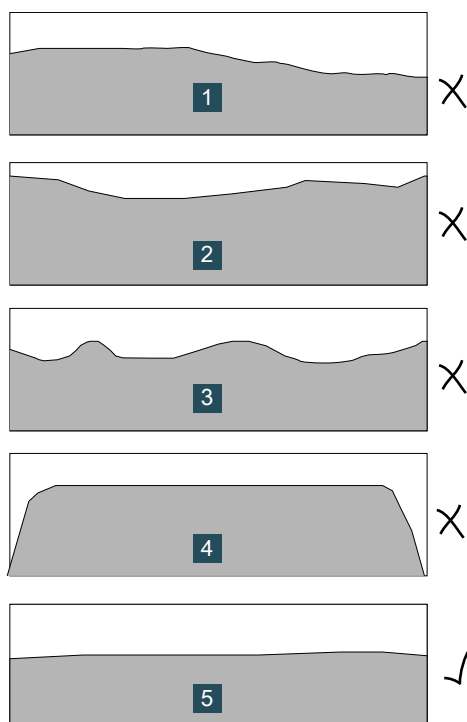


Figure 262: Batt in the feed channel

- 4. If the batt status is like the status **1**, **2**, **3**, and **4**, adjust the air feed opening at the card chute.

⇒ The batt in the feed channel is examined.

Adjusting the Air Feed Opening at the Card Chute

Measuring point	Default value
Ch06	10 mm
Ch07	9 mm
Ch08	8 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- 1. Remove the funnel from the card chute.
- 2. Loosen the screw **6** of the adjusting angle.

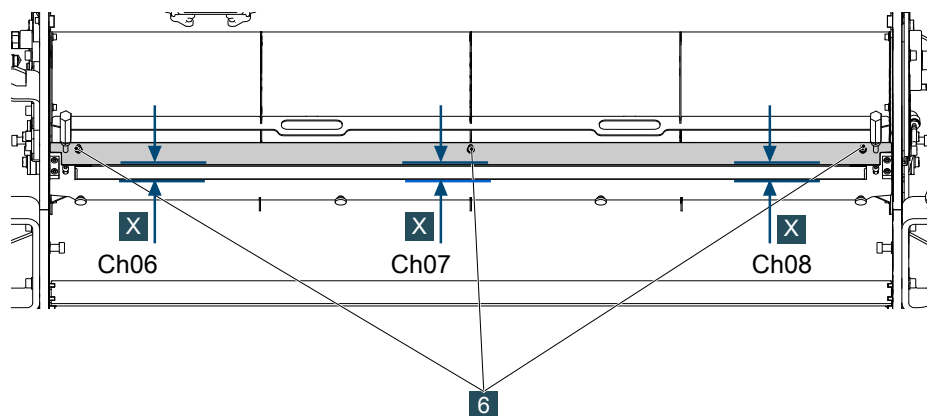


Figure 263: Adjusting angle

- 3. At the area where less material is in the feed channel, increases the distance **X**.
- 4. At the area where more material is in the feed channel, decreases the distance **X**.
- 5. Make sure that the distance of the opening **X** is in the range from 8 mm to 12 mm.
 - ⇒ The default value of the distance **X** at the measuring points are shown in the table above.
- 6. Examine the batt status through the window of the bottom feed channel.
 - ⇒ The air feed opening at the card chute is adjusted.

Result The airflow at the card chute is adjusted.

7.11.4.2 Setting the Batt Weight

2.3.1.4 Chute Settings		7:58:03
8118 Delivery normal		
Adjust target pressure in chute	On	
Batt weight in chute	700	g/m
Correct pressure in chute	No function	
Can filling correction	0	%
Target pressure in chute & Correction factor Pressure	280.0 Pa	1.000
Chute monitoring, emptying	Normal	

Figure 264: Batt weight

Prerequisites Make sure that the criteria are obeyed:

- ✓ The pressure monitor operates correctly.
- 1. Select the data screen 2.3.1.4 **Chute settings** .
- 2. Select **On** in the field of **Adjust target pressure in chute** .
- 3. Enter the correct batt weight in the field **Batt weight in chute** .
 - ⇒ The range of batt weight in chute is from 550 g/m to 900 g/m.
 - ⇒ The batt weight will be updated to the target batt weight automatically in few minutes.

Result The batt weight is set.

7.11.4.3 Adjusting the Batt Weight

1. See the batt weight on the screen of the operating unit.
2. If the batt weight is correct, select **No function** in the field **Correct pressure in chute** in the data screen 2.3.1.4 **Chute settings** .
 - ⇒ No correction is necessary.
3. If the batt weight is different from the target batt weight, select one of the below functions in the field **Correct pressure in chute** in the data screen 2.3.1.4 **Chute settings**.
 - ⇒ **Feed batt too light, increase pressure.**

⇒ **Feed batt too heavy, reduce pressure.**

Result The batt weight is adjusted.

7.11.4.4 Adjusting the Feed Trough to the Minimum Distance

The eccentric was set at the factory for the minimum distance between feed roller and the feed trough. Accordingly, the adjustment must only be made if the distance is no longer the same as the basic setting.

Disconnect the front covers until the feed roller and the feed trough are freely accessible for the adjustment.

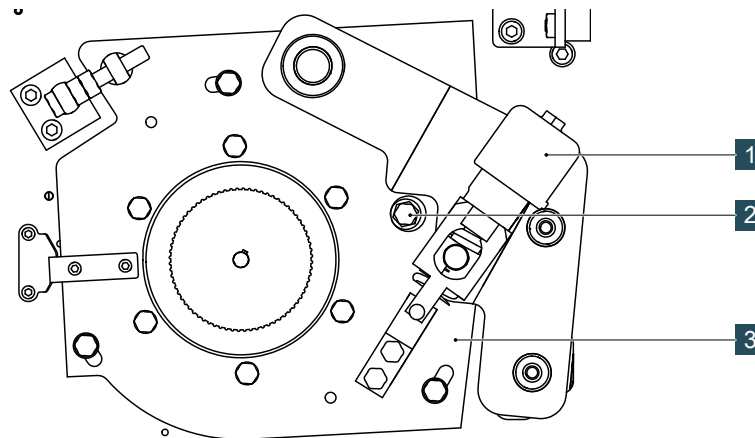


Figure 265: Adjustment of the feed trough

1. Put the tube **1** on the identification point 5.
2. To adjust the distance between the feed roller and feed trough in the range from 1.00 mm to 1.20 mm, use the eccentric **2**.
3. Make sure that the eccentric **2** is flush on 2 sides with the bearing plates **3**.

Result The feed trough is adjusted to the minimum distance.

7.11.4.5 Adjusting the Feed Plate Load

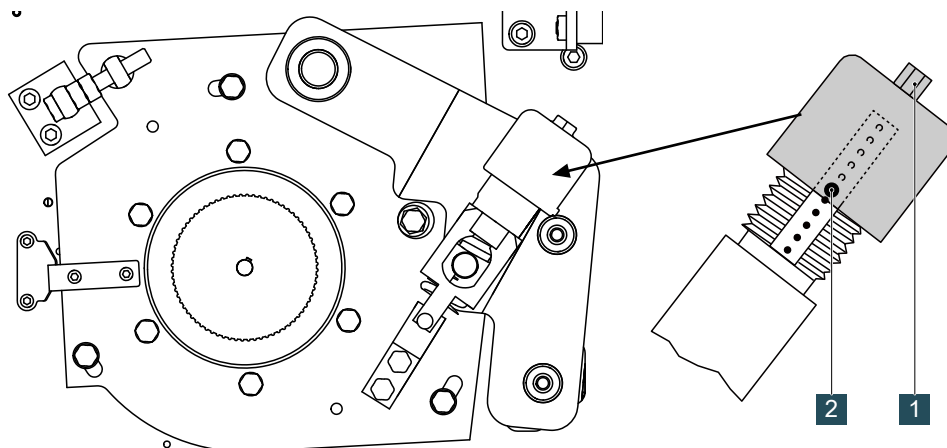


Figure 266: Adjustment of the feed plate load

1. Loosen the pin **2** of the adjustment tubes **1** on 2 sides of the machine.
2. Firstly set the identification point at number 5, to do this use a tool to turn adjustment tubes **1** on 2 sides of the machine.
3. Find the correct adjustment through trial and error method.
 - ⇒ If increasing the load, the production is increased.
 - ⇒ If decreasing the load, the production is decreased.
4. Turn the adjustment tube **1** by more than 2 mark points from initial position.
5. Examine the material flow.
6. Refer to the material flow to increase or to decrease the load by turning the adjustment tube **1** on 2 sides of the machine.
7. Install the pin **2** on 2 sides of the machine.
8. To prevent the damage to the screw thread, make sure that the pin **2** is aligned with the point mark.

Result The feed plate load is adjusted.

7.11.4.6 Setting the Staple Length at the Card Chute

Staple length	Values of the scale
Short staple	1
Medium staple	4
Long staple	7
Extra-long staple	10

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Remove the covers to get the success to the target part.
2. Loosen all screws **3**
3. Move down the pusher **2**.
4. Do not remove the screws **1**.
⇒ The screws **1** are used to prevent the pusher **2** from being removed.

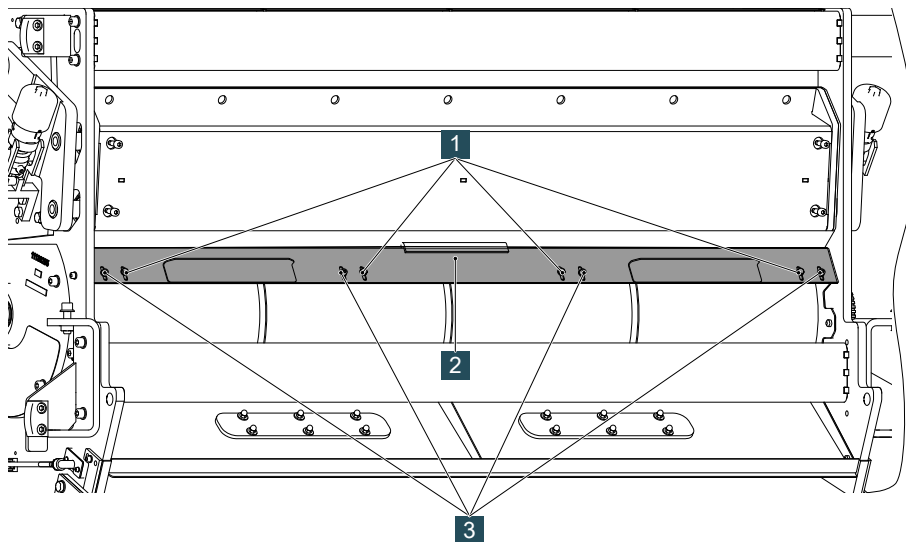


Figure 267: The pusher

5. Loosen the screws **5** on 2 sides of the machine.

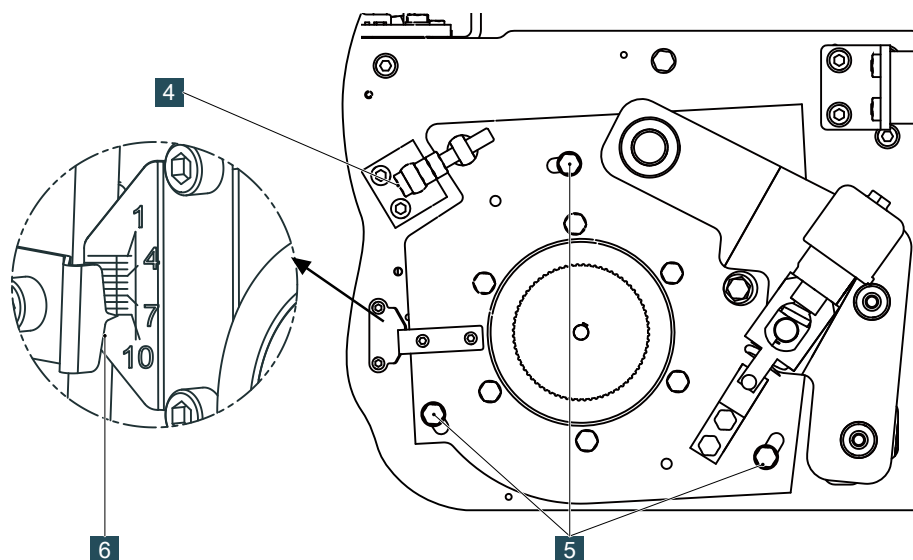


Figure 268: Adjustment of the staple length

6. Turn the screw **4** to set the staple length.

7. To prevent the feed plate from being out of shape, turn the screw **4** on 1 side of the machine for a small distance and then turn the screw **4** on the other side of the machine.
8. Do step 6 and 7 more than 3 times until the scale **6** shows the target staple length.
9. Tighten the screws **5** on 2 side of the machine.
10. Move up the pusher **2**.
11. Tighten the screw **3**.

Result The staple length at the card chute is set.

7.11.4.7 Adjusting the Opening Roller Speed

The user can change the pulley of the motor for the opening roller to adjust the speed of the opening roller.

For Opening Roller Speed Values	
Specification of the pulley	Speed
24 teeth	700 rpm (not delivery with the machine)
29 teeth	850 rpm (installed on the machine)
40 teeth	1 150 rpm (delivery with the machine)
52 teeth	1 500 rpm (not delivery with the machine)

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ 1 pulley with correct diameter for the opening roller speed is to be used.
- ✓ The belt is removed.

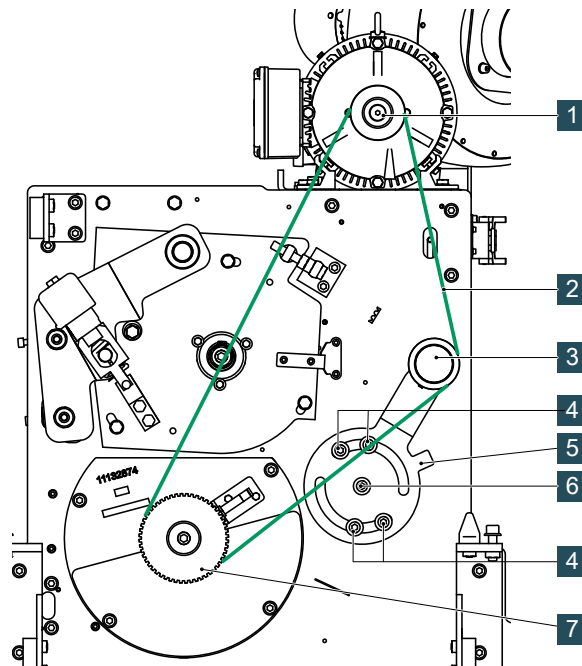


Figure 269: Adjustment of the opening roller speed

1. Install the correct pulley **1**.
2. Loosen the screws **4** and **6** at the tensioning device.
3. Put the belt **2** around the pulley **1**, pulley **7**, and the tension roller **3**.
4. Tighten the opening roller belt (refer to ► 293).

Result The opening roller speed is adjusted.

7.11.4.8 Tightening the Opening Roller Belt

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ A device for examining the belt vibration is to be used.
1. To tighten the belt, turn the tension plate **5** with an opening wrench.

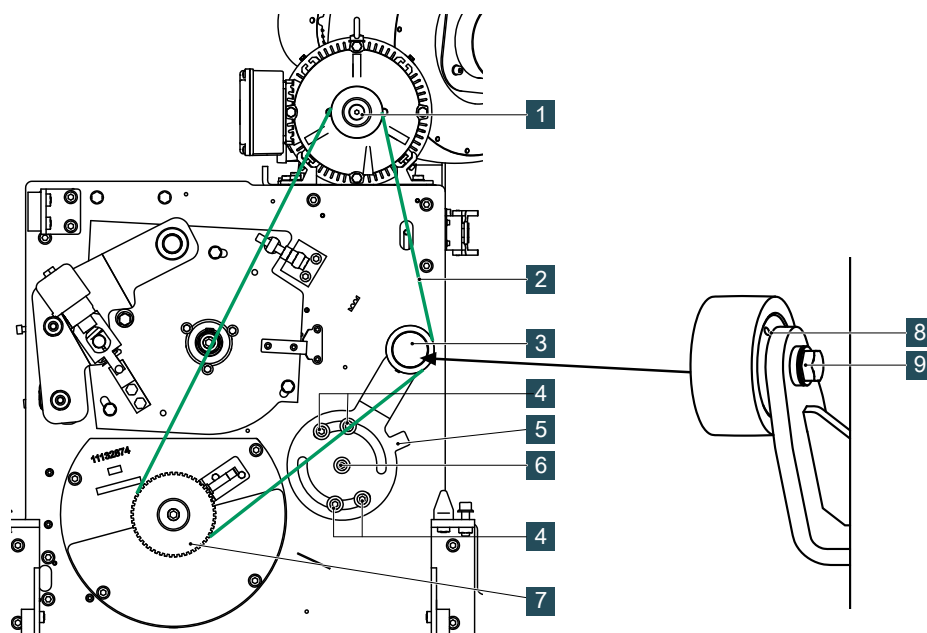


Figure 270: Side view of the chute drive

2. Use the vibration measuring instrument to measure the vibration of the belt.
3. Make sure that the vibration of the belt is 35 Hz.
4. Tighten the screws **4** and **6** at the tensioning device.
5. Adjusting the belt to the center position.
6. Turn the belt **2** by hand to examine if the belt is at the center position.
7. If the belt is not at the center position, adjust the belt to the center position.

Result The opening roller belt is tightened.

Adjusting the Belt to the Center Position

1. Loosen the screw **9**.
2. Put a hexagonal key into the hole **8** to turn the tensioner roller **3** until the belt is at the center position.
3. Tighten the screw **9**.
4. Start the machine.
5. Go to the data screen 4.2.5.2 **Test of Opening Roller in Chute**.
6. Start the opening roller.
7. Monitor the belt position.

Result The belt is adjusted to the center position.

7.11.4.9 Opening the Covers of the Card Chute

Prerequisites Make sure that the criteria are obeyed:
 ✓ The main switch is set to the position OFF and the main switch is padlocked.

Opening the Feed Table and the Bottom Cover



CAUTION

Incorrect operation at the machine!

Risk of injury because of the incorrect operation at the machine

- Read the operation manual before you do the procedure.



CAUTION

Moving components after the main switch is set to the position ON!

Risk of injuries.

- Set the main switch to the position OFF for maintenance work, replacement work, or repair work.
- Padlock the main switch.
- Do NOT be in a danger zone when the main switch is set to the position ON.

1. Make sure that the opening roller is at a standstill.
2. Remove all the screws **12** and **5** of the funnel **11**.

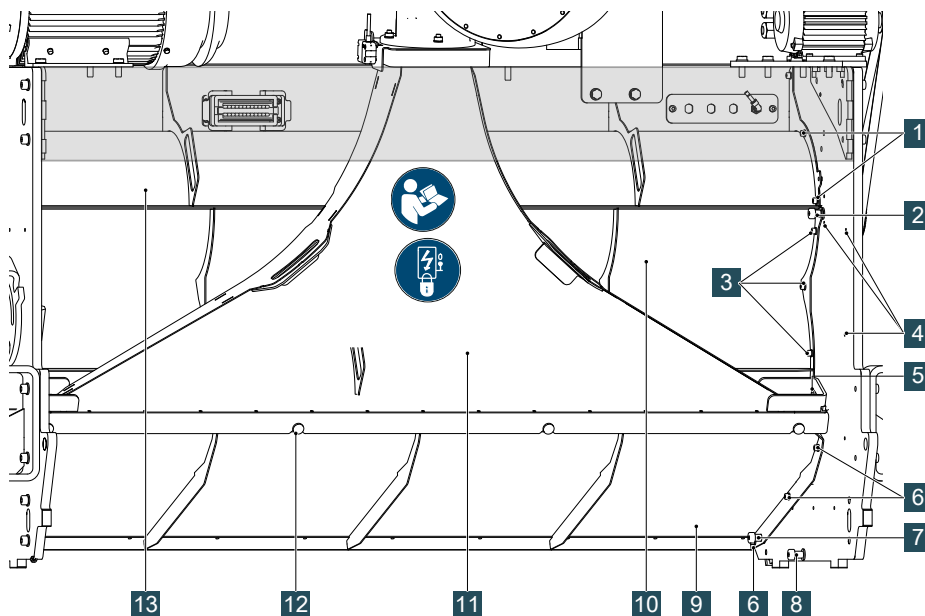


Figure 271: Removal of the covers of the card chute

3. **CAUTION! Incorrect operation at the machine! Risk of injury because of the incorrect operation at the machine. CAUTION! Moving components after the main switch is set to the position ON!** Lift the funnel **11** with a small distance and remove the funnel **11**.
4. Remove all the screws **6** of the feed table **9** on 2 sides of the machine.
5. Turn the feed table **9** around the shoulder screw **7** to open the feed table **9**.
6. Put the feed table **9** on the shoulder screw **8** to hold the feed table **9**.
⇒ The feed table is opened.
7. Remove all the screws **3** of the bottom cover **10** on 2 sides of the machine.
8. Turn the bottom cover **10** around the shoulder screw **2** to open the bottom cover **10**.
9. Install any of the screws **3** to the holes **4** to hold the bottom cover **10**.
⇒ The bottom cover is opened.

Removing the Top Cover

Prerequisites Make sure that the criteria are obeyed:

- ✓ The funnel is removed.
- 1. Remove all the screws **1** of the top cover **13** on 2 sides of the machine.
- 2. Remove the top cover **13**.
⇒ The top cover is removed.

Result The covers of the card chutes are opened.

7.11.4.10 Removing the Blockage in the Card Chute



WARNING

Turning roller!

Injury because of hands are getting pulled in between the rollers

- Examine the operating status of the machine.
- Do NOT touch the turning roller.

**CAUTION**

Moving components after the main switch is set to the position ON!

Risk of injuries.

- ▶ Set the main switch to the position OFF for maintenance work, replacement work, or repair work.
- ▶ Padlock the main switch.
- ▶ Do NOT be in a danger zone when the main switch is set to the position ON.

**CAUTION**

Incorrect operation at the machine!

Risk of injury because of the incorrect operation at the machine

- ▶ Read the operation manual before you do the procedure.

1. Push the backward button **1** of the feed roller of the card chute to make the feed roller moves backward.

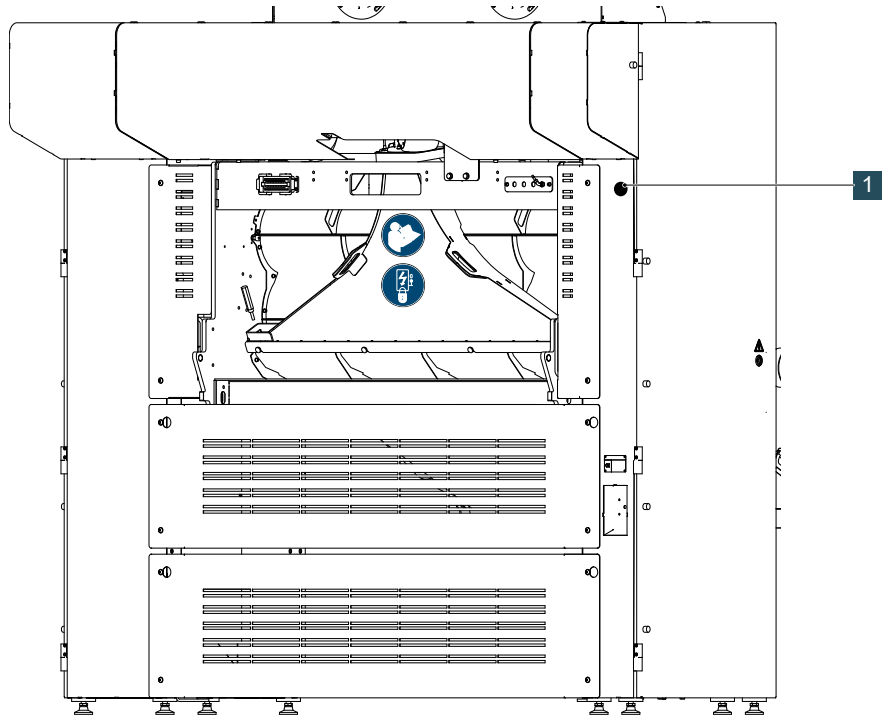


Figure 272: The backward button of the feed roller of the card chute

2. Stop the machine.
3. Make sure that the machine is at a standstill.
4. Set the main switch to OFF position and padlock the main switch.

5. Make sure that the flap of the removal head is closed.
6. **CAUTION! Moving components after the main switch is set to the position ON! Incorrect operation at the machine!** Remove the funnel.
7. **WARNING! Turning roller! Injury because of hands getting pulled-in between the rollers.** Remove the top cover (refer to ► 295).
8. Remove the blocked material around the feed roller.
9. Install the top cover and the funnel.

Result The blockage in the card chute is removed.

7.11.4.11 Adjusting the Feed-in Channel

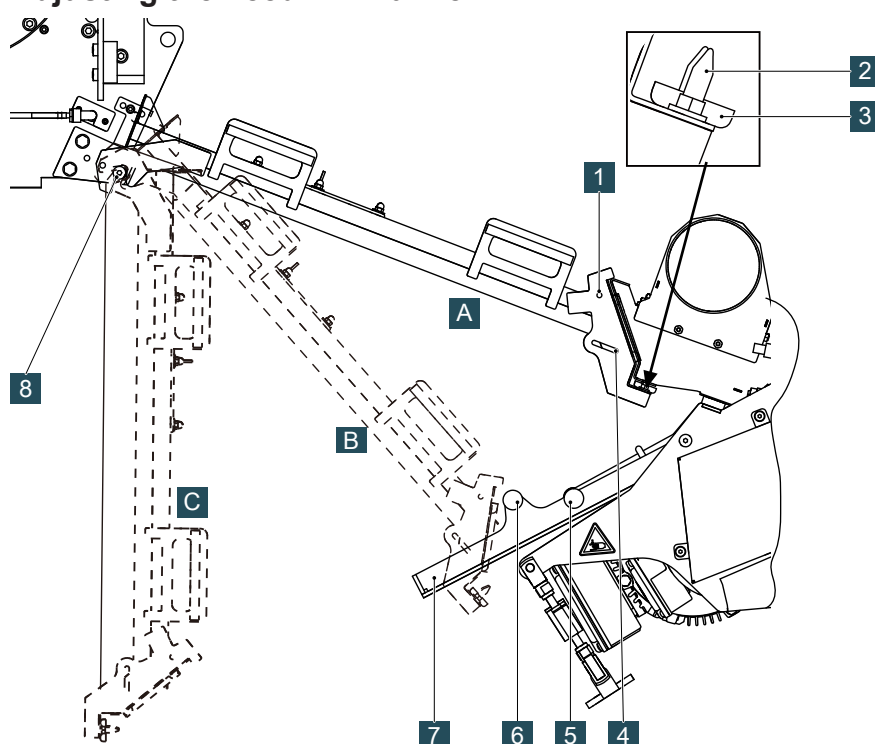


Figure 273: Feed-in channel

A	Position of connection	B	Position of disconnection
C	Position of removal		

There are 3 positions for the feed-in channel.

Position **A** is for the production.

Position **B** is for the user to remove the blockage from the lick-in unit. Stopping the production is necessary before the user put the feed-in channel at position **B**. To put the feed-in channel at position **B**, the user needs to do the procedure from left side of the machine.

Setting the main switch to the position OFF is necessary before the user put the feed-in channel at position **C**. To put the feed-in channel at position **C**, the user needs to do the procedure from 2 sides of the machine.

Closing the Feed-in Channel

Prerequisites Make sure that the criteria are obeyed:

- ✓ 2 personnel are necessary.
- 1. Hang the hooks on the screws **8** on 2 sides of the machine.
- 2. Hold and lift the feed-in channel by one person.
- 3. Lift the lever **7** and put the stop bolt **5** in the guide slot **4** by the other person.
- 4. Put the stop bolt **5** in the guide slot on the other side of the machine.
- 5. Lift the lever to put the positioning bolt **2** through the holes of the lick-in unit.
- 6. Make sure that the magnets **3** attach the feed-in channel to the right position.
⇒ A 'click' voice can be heard when the magnets **3** attach the feed-in channel to correct position.
- 7. Put the stop bolt **6** into the hole **1**.

Result The feed-in channel is closed.

Disconnecting the Feed-in Channel

Prerequisites Make sure that the criteria are obeyed:

- ✓ The production is stopped.
- 1. Open the folding door at the left side.
- 2. Lift the lever **7** for a small distance.
- 3. Release the stop bolt **6** from the hole **1**.
- 4. Put the feed-in channel at the position **B**.

Result The feed-in channel is disconnected from the lick-in unit.

Removing the Feed-in Channel from Card

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ 2 personnel are necessary.
- 1. Open the folding doors on 2 sides of the machine.
- 2. From the left side of the machine, lift the lever **7** with a small distance.
- 3. Release the stop bolt **6** from the hole **1**.
- 4. Release the stop bolt **5** on 2 sides of the machine.
- 5. Put down the feed-in channel to the position **C**.

Result The feed-in channel is removed from the card.

7.11.5 Setting the Licker-In Unit

This section contains the information about how to set the licker-in unit.

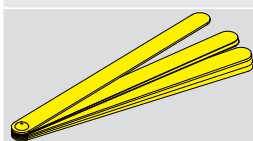
7.11.5.1 Adjusting the Distance between the Licker-In Unit and the Cylinder

Tools



Adjusting tool

The adjusting tool is used to lift the licker-in unit to the cylinder.



Card gauge

The card gauge is used to measure the distance between the machine parts.

Prerequisites Make sure that the criteria are obeyed:

- ✓ An adjusting tool is to be used.
- ✓ A card gauge is to be used.



CAUTION

Crushing of the hands!

Risk of injury to the hands because of the falling of heavy parts.

- Do **NOT** put the hands below the heavy parts.

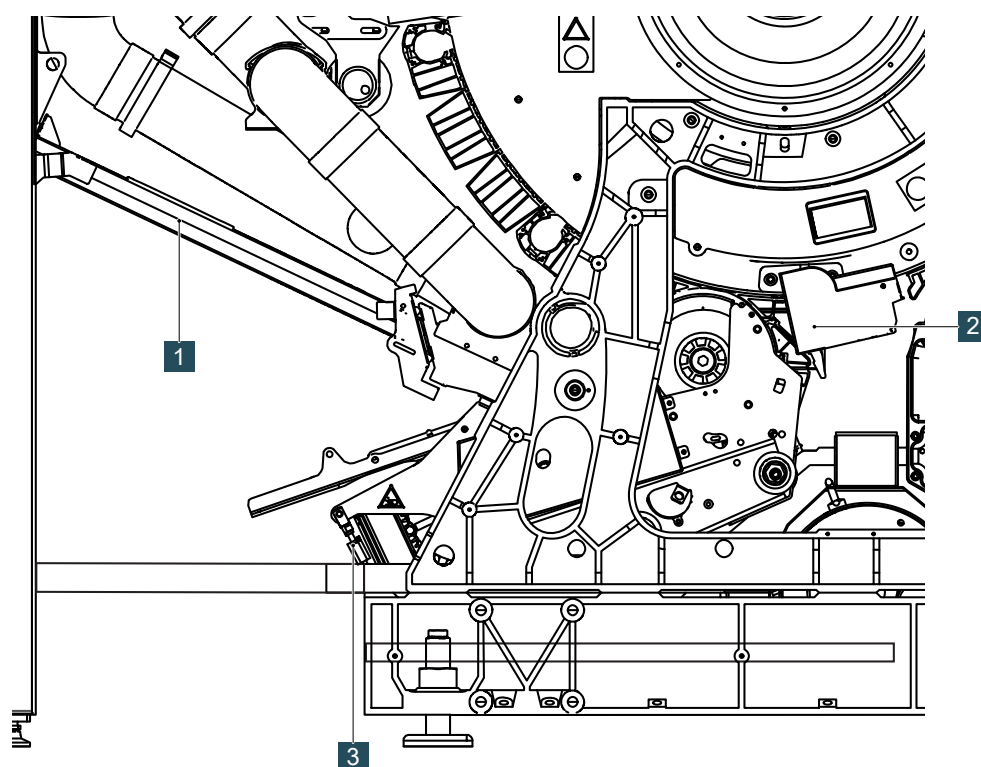


Figure 274: Adjustment of the lick-in unit

1. Disconnect the feed channel **1**.
2. On the right side of the machine, install the adjusting tool.
3. Remove the IGS-classic **2** to get the space to measure the distance between the lick-in roller and cylinder.
4. To measure the distance between the lick-in roller and cylinder, insert the card gauge in the direction of the arrow.

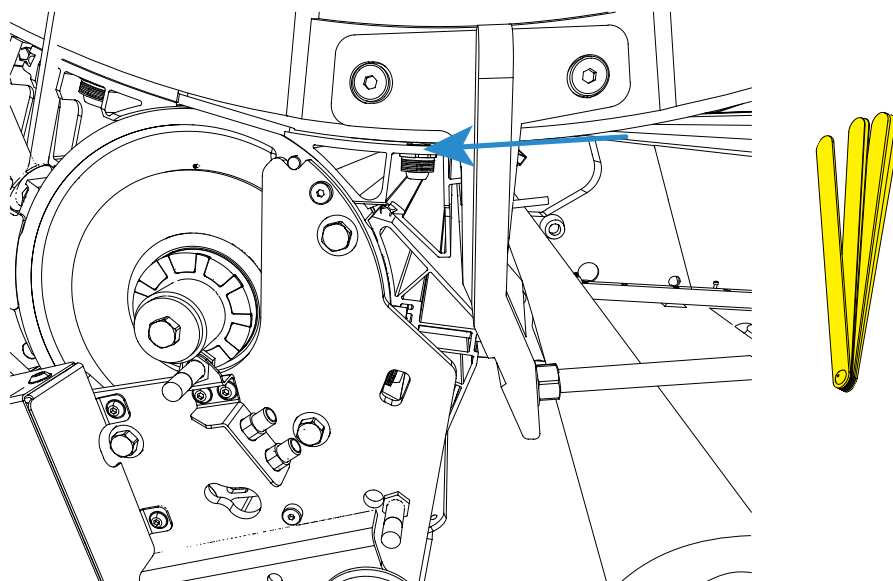


Figure 275: Measurement of the distance

5. Adjust the adjusting tool to lift the lick-in to the cylinder until the distance between the lick-in and the cylinder is ≤ 1 mm.
 ⇒ The preparation for the fine adjustment by the adjusting spindle is done.
6. On the left side of the machine, install the adjusting spindle **3**.
7. **CAUTION! Crushing of the hands! Risk of injury to the hands because of the falling of heavy parts.** On the right side of the machine, remove the adjusting tool to install the adjusting spindle.

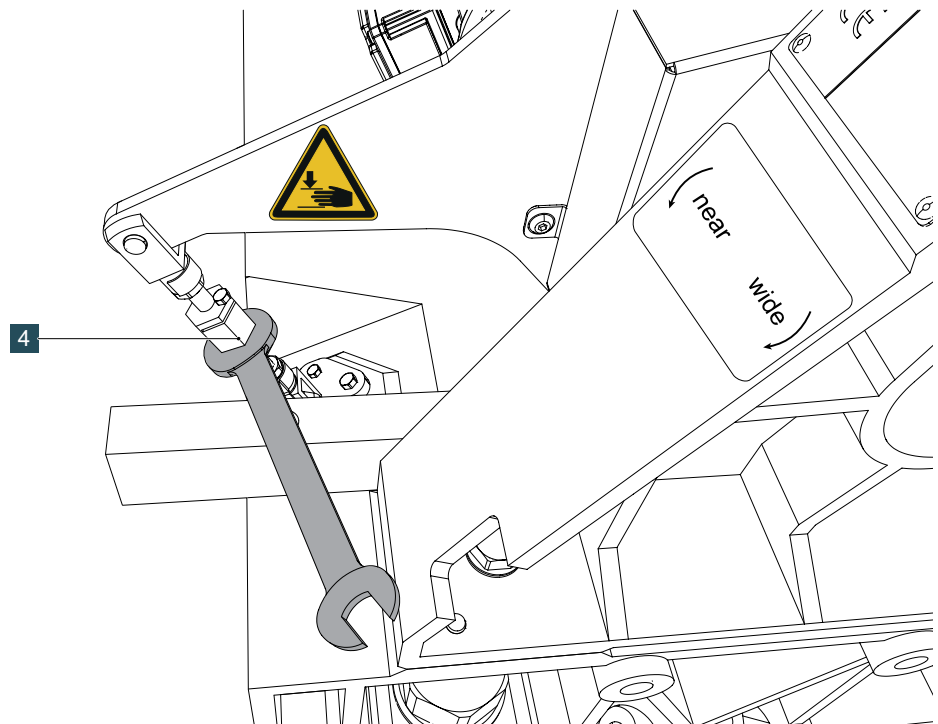


Figure 276: Adjusting bolt

8. On both side of the machine, use the spanner to turn the nut **4** to adjust the distance between the licker-in and the cylinder at the same time.
 ⇒ The value of the distance (L09) is shown in the machine setting sheet
 (Machine Setting Sheets ► 250).
9. Connect the feed channel **1**.
10. Install the IGS-classic **2**.
11. Connect all cables and pneumatic tubes.

Result The licker-in unit is adjusted.

7.11.5.2 Adjusting the Distance between the Feed Roller and the Licker-In

Prerequisites Make sure that the criteria are obeyed:

- ✓ The licker-in unit is removed from the machine.
 - ✓ A set of card gauge is to be used.
1. Remove all belts and cables.
 2. Measure the distance **X** between the feed roller and the licker-in roller.

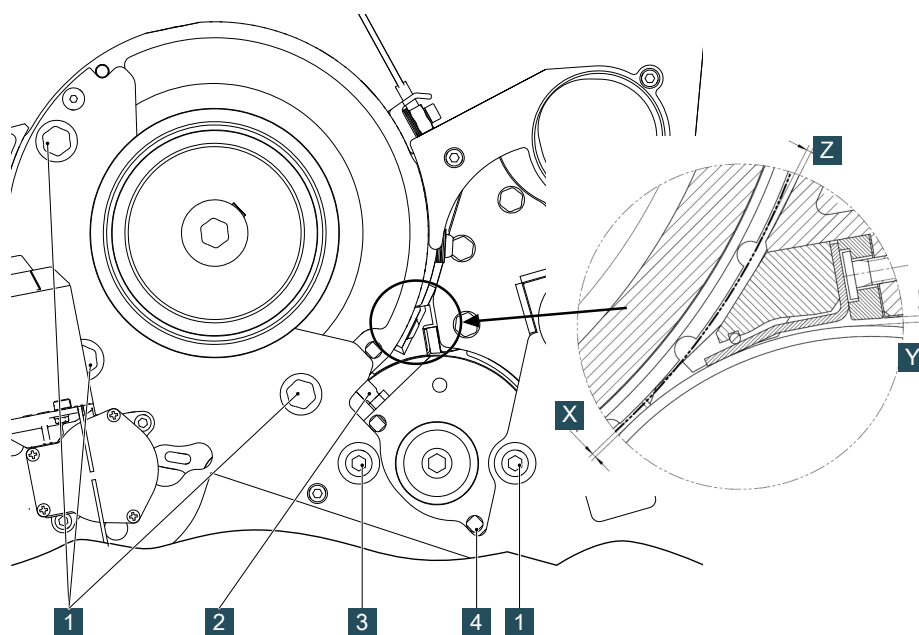


Figure 277: Distance between the feed roller and the licker-in roller

3. Select the correct value for the distance **X** from the setting sheet.
4. Loosen the screws **1** and **3**.
5. If the distance **X** is more than 2 mm, do the step 6 or the step 7 that follows.
6. Hold the screw **3** and turn the feed roller near to the licker-in on the 2 sides of the machine.
7. Turn the eccentrics **4** to turn the feed roller near to the licker-in on the 2 sides of the machine.
8. Measure the distance **X** again.
9. If the distance **X** is less than 2 mm, turn the adjusting spindle **2** until the distance **X** is 0.9 mm.
10. Tighten all screws.
11. Examine the distance **X** again.

Result The distance between the feed roller and the licker-in is adjusted.

7.11.5.3 Adjusting the Position of the Feed Plate

Prerequisites Make sure that the criteria are obeyed:

- ✓ The licker-in unit is removed from the machine.
- ✓ A set of card gauges is to be used.
- ✓ The distance between the feed roller and the licker-in roller is set.

1. Select the correct value for the distance **Y** and the distance **Z** from the setting sheet.

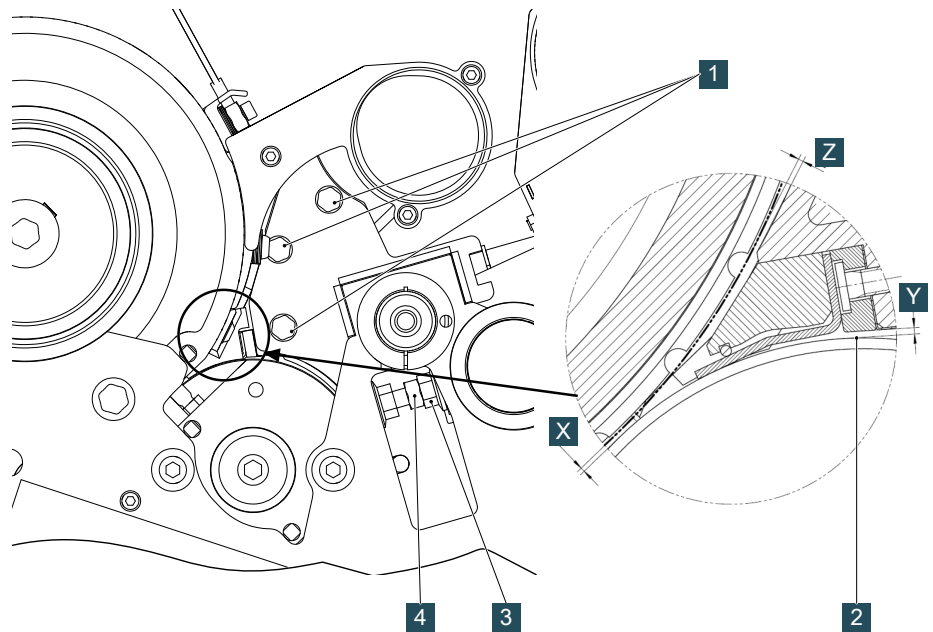


Figure 278: Position of the feed plate

2. Loosen the screws **1** on the 2 sides of the machine.
3. Put a 1.37-mm card gauge at the position **2** on the 2 sides of the machine.
4. Loosen the lock nut **4** on the 2 sides of the machine.
5. Turn the nut **3** to adjust the distance **Z** on the 2 sides of the machine.
6. Use the card gauge to examine if the distance **Z** is 1.37 mm.
7. Make sure that the distance **Y** and the distance **Z** are the same.
8. Tighten the lock nut **4**.
9. If necessary, set the feed roller parallel to the feed plate.

Result The position of the feed plate is adjusted.

7.11.5.4 Setting the Feed Roller Parallel to the Feed Plate

Prerequisites Make sure that the criteria are obeyed:

- ✓ The lick-in unit is removed from the machine.
 - ✓ A set of card gauges is to be used.
1. Loosen the screws **1** on the 2 sides of the machine.

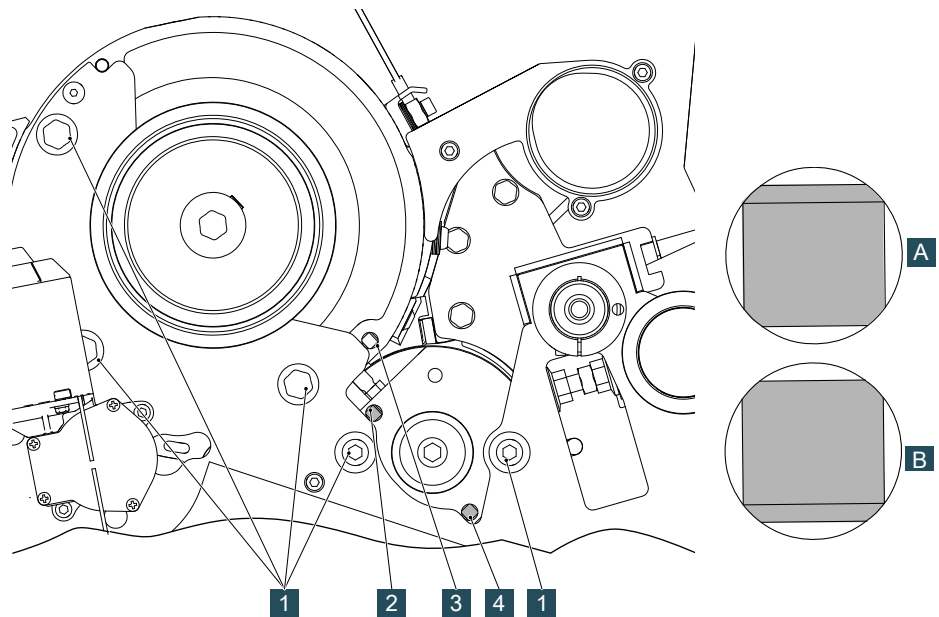


Figure 279: Screws and eccentrics of the feed roller

2. Examine the positions of the eccentrics **2** and **4**.
 - ⇒ If the positions of the eccentrics **2** and **4** are like **A**, the feed roller is at the lowest position.
 - ⇒ If the positions of the eccentrics **2** and **4** are like **B**, the feed roller is at the highest position.
3. Turn the eccentric **4** to do the rough adjustment on the 2 sides of the machine.
4. Turn the eccentric **2** to do the fine adjustment on the 2 sides of the machine.
5. Use the card gauge to examine if the feed roller is parallel to the feed plate.
6. Examine the distance between the feed plate and the feed roller.
7. Tighten the screws **1**.
8. Examine again the distance between the feed plate and the lick-in.
9. Adjust the distance between the feed plate and the lick-in if necessary.

Result The feed roller is parallel to the feed plate.

7.11.5.5 Adjusting the Staple Length at the Licker-In Unit

Staple Length	Thickness of the Distance Strip
Short	27 mm
Medium	21 mm
Long	17 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The lick-in unit is removed from the machine.
 - ✓ The feed plate is removed.
1. Remove the 15 screws **2**.

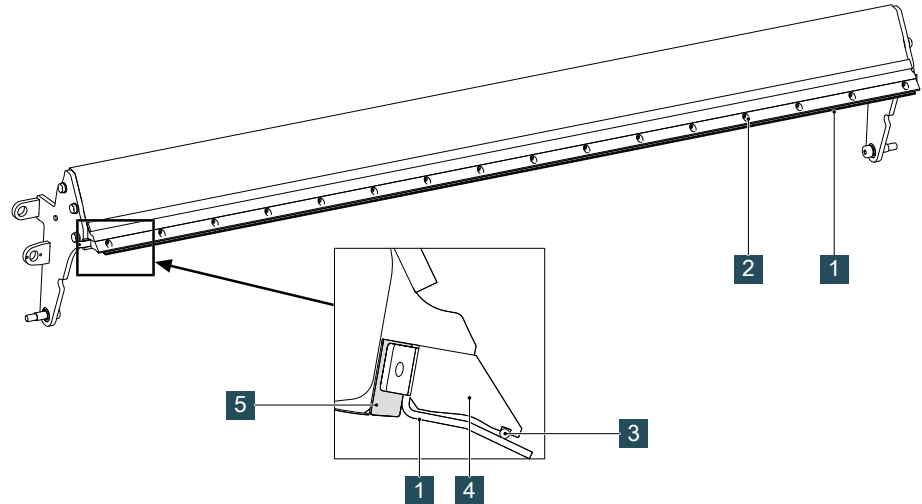


Figure 280: Adjustment of the staple length

2. Remove the supporting strip **4**.
3. Select the correct thickness of the distance strip **5** in the table of Staple Length.
4. Select the target stripping lips **1**.
5. Select the target size of the supporting strip **4**.
6. Select the target screws **2**.
7. Install the distance strip **5** with 6 pieces of M5 screw.
8. Put a 0.6-mm card gauge between the stripping lips **1** and supporting strip **4**.
9. To attach the stripping lips **1** and supporting strip **4** to the feed plate, install the selected screws **2**.
10. Tighten the screws **2** tightly to make sure that the supporting strip **4** is attached to the feed plate tightly.
11. Make sure that the seal **3** is installed in the correct position.

Result The staple length is adjusted.

7.11.5.6 Setting the Preload of the Feed Plate

Prerequisites Make sure that the criteria are obeyed:

- ✓ Only set the preload on condition that problems are with the batt weight.
- ✓ Only set the preload when changing the raw material.
- ✓ The card is empty.
- ✓ The machine is at a standstill.

1. Put a whole set of card gauge between the lick-in roller and the feed plate to prevent the crush during the setting of the preload.
2. Loosen the lock nut **1**.

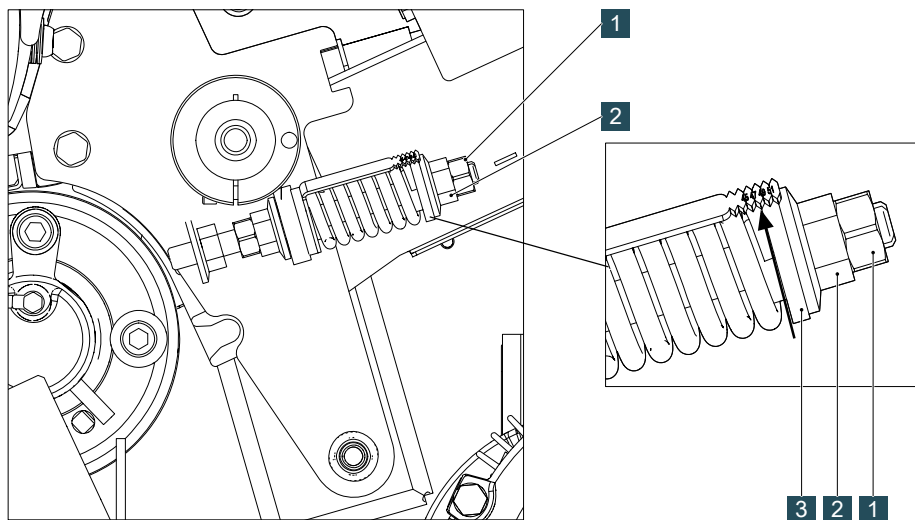


Figure 281: Adjustment of the preload of the feed plate

3. Adjust the adjusting nut **2** to make the edge of the plate **3** align to 48 at the scale.
4. Tighten the lock nut **2**.
5. Do the steps 2, 3, and 4 on the other side of the machine.
6. Enter the password of the authorization level 3 to open the data screen 2.3.1.2 Feed Unit & Cylinder Settings.
7. Enter the value 48 in the field **Spring tension distance feed trough**.

Result The preload of the feed plate is set.

7.11.5.7 Examining the Modulation of the Measuring Device

1. Select the data screen 1.1.2 **Actual values Machine**.

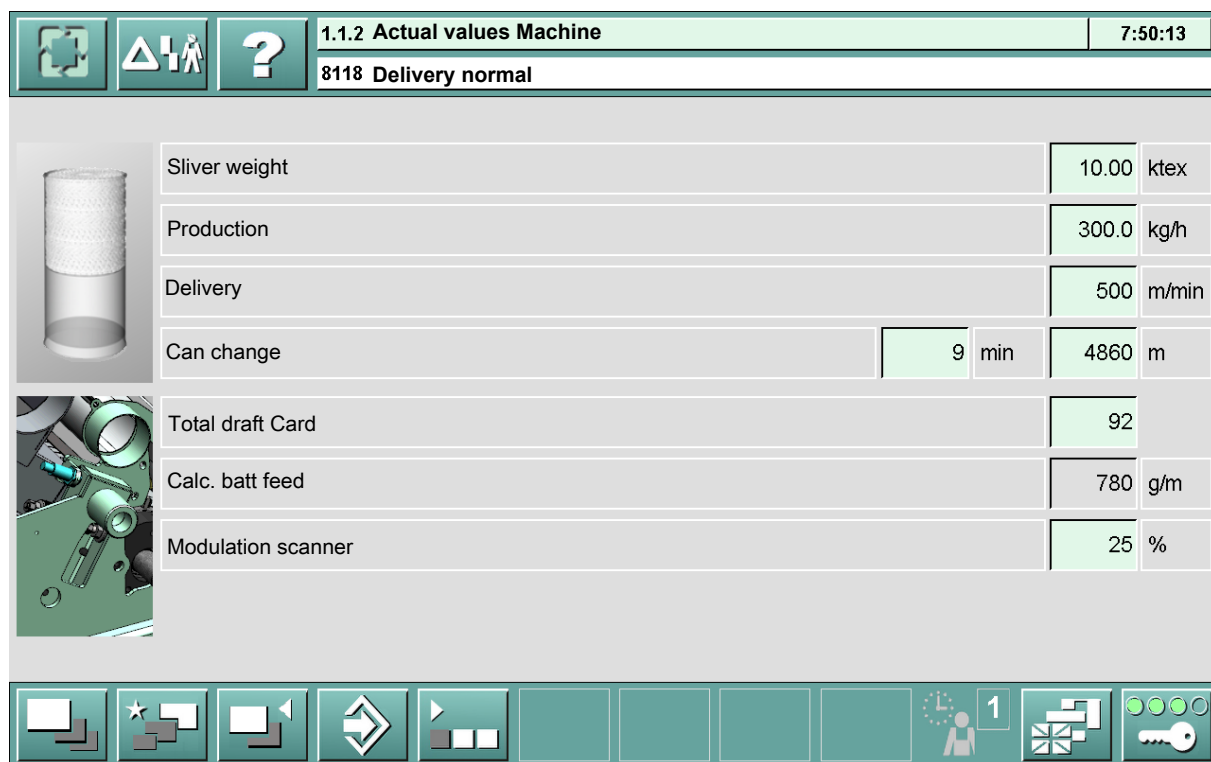


Figure 282: Data screen 1.1.2 actual values machine

2. Read the actual value, in the field **Modulation scanner**.
⇒ If the value range is from 15 % to 60 %, the load is correct.
3. If the value is out of the range from 15 % to 60%, do the steps that followed.
4. Check the adjustment of the springs.
5. Check the adjustment of the modulation sensor.
6. Check the distance between the feed plate and the feed roller without the material.
7. If the value is too low, increase the batt weight in the data screen 2.3.1.4.
8. If the value is too high, decrease the batt weight in the data screen 2.3.1.4.

Result The examining of the measuring device is done.

7.11.5.8 Setting the Opening Position of the Mote Knife

1. Open the data screen 2.1.3 Nominal values Work elements.
2. Set the value in the field **Ejection dist. Licker-in** in the range of 40-70 mm.

Result The opening position of the mote knife is set.

7.11.5.9 Adjusting the Distance between the Mote Knife and the Licker-In

Prerequisites Make sure that the criteria are obeyed:

- ✓ The machine is at a standstill.
- 1. Open the data screen 2.1.3 Nominal values Work elements.
- 2. Set the value to 70mm in the field **Ejection dist. Licker-in**.

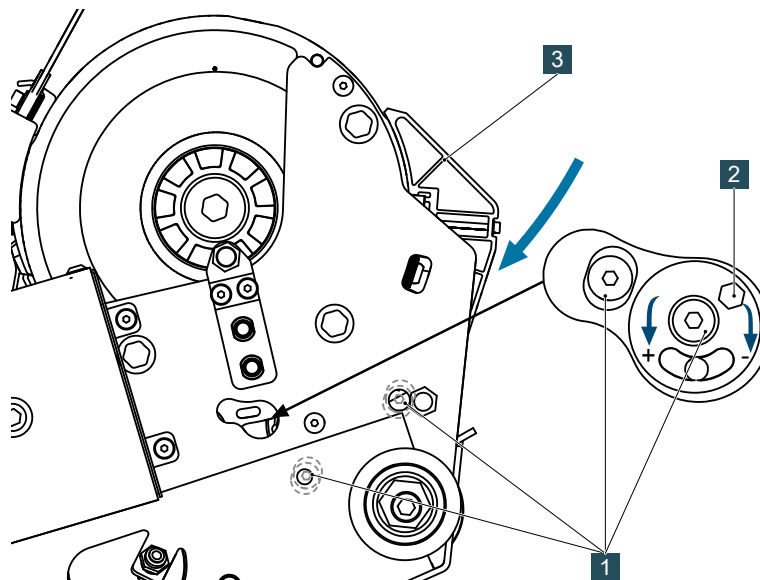


Figure 283: Adjustment of the distance between the mote knife and the licker-in

- 3. Loosen the 4 screws **1** on 2 sides of the machine.
- 4. To adjust the distance between the mote knife and the licker-in until the distance is 0.7 mm, put a hexagonal key into the hole **2** to turn the eccentric.
 - ⇒ If the eccentric is turned clockwise, the distance is decreased.
 - ⇒ If the eccentric is turned counterclockwise, the distance is increased.
- 5. Remove the stationary flats holder **3** to get the access for measuring the distance between the mote knife to licker-in roller.
- 6. In the direction of the arrow, use a card gauge to examine if the distance between the mote knife and licker-in roller is 0.7 mm.
- 7. Do the step 4 and the step 5 on the other side of the machine.
- 8. Tighten the screws **1** on the 2 sides of the machine.

Result The distance between the mote knife and the licker-in is adjusted.

7.11.5.10 Adjusting the Top Suction Opening of the Licker-In

Description	Value
Range	4 – 6 mm
Default setting	5 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The machine is at a standstill.

✓ A hexagonal key is to be used.

1. Remove the screws **4** on the 2 sides of the machine.

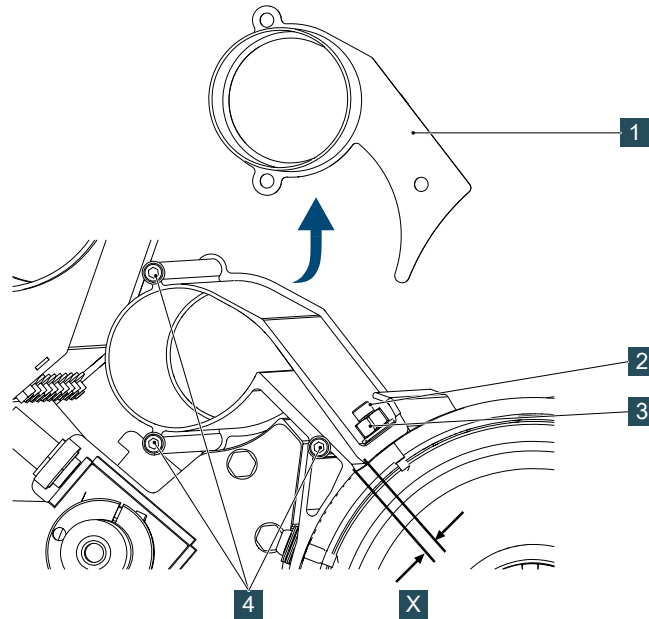


Figure 284: Adjustment of the top suction opening of the lick-in

2. Remove the top suction flange **1** on the 2 sides of the machine.
3. Loosen the screw **2** on the 2 sides of the machine.
4. Turn the eccentric **3** on the 2 sides of the machine to adjust the opening distance **X**.
5. To measure the opening distance **X**, use the hexagonal key.
6. Tighten the screw **2**.
7. Install the top suction flange **1** and the screws **4** on the 2 sides of the machine.

Result The top suction opening of the lick-in is adjusted.

7.11.5.11 Adjusting the Carding Elements in the Licker-In Area

Prerequisites Make sure that the criteria are obeyed:

- ✓ The lick-in unit is removed from the machine.
 - ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ A set of card gauge is to be used.
1. Use the card gauge to measure the actual distance between the stationary carding element and the lick-in.
 2. Select the correct shim **3** in relation to the target distance.
 3. Remove the screws **1** on the 2 sides of the machine.

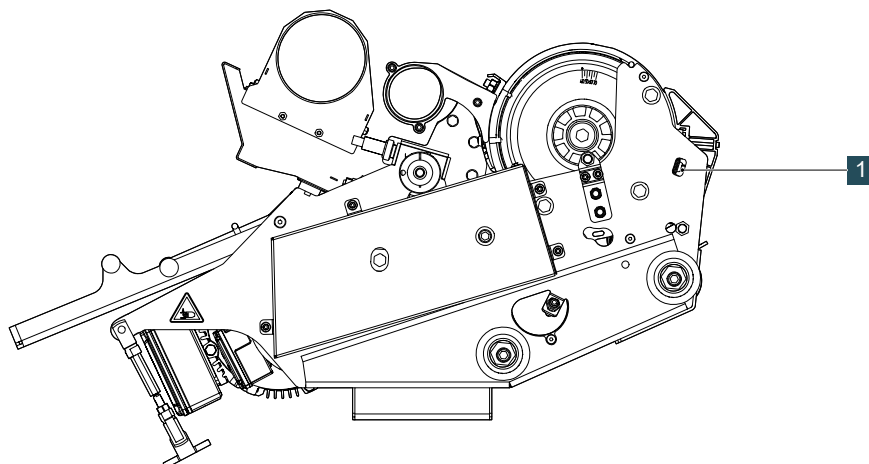


Figure 285: Screw of the stationary carding element

4. Remove the stationary carding element from the side of the machine.
5. Loosen the screw **4**.

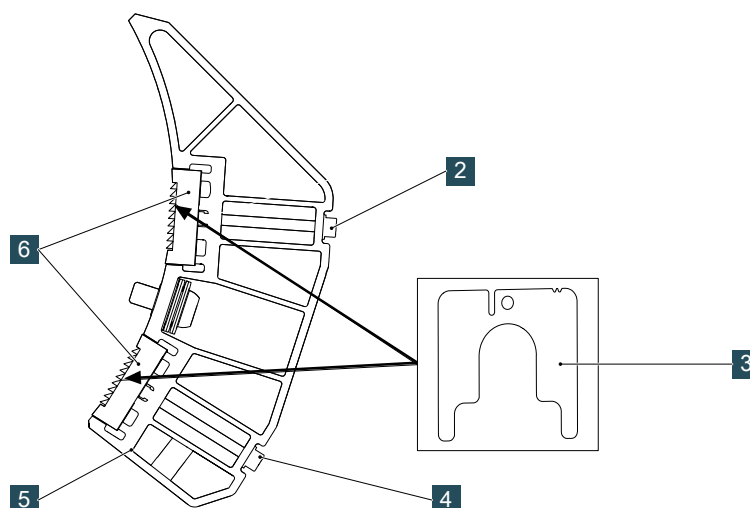


Figure 286: Carding element

6. Replace the correct shim **3** between the intermediate plate **6** and the carding element holder **5**.
7. Tighten the screw **4**.
8. Loosen the screw **2**.
9. Change the correct shim **3** between the intermediate plate **6** and the carding element holder **5**.
10. Tighten the screw **2**.
11. Install the stationary carding element to the lick-in unit.
12. Tighten the screws **1** lightly on the 2 sides of the machine.

13. Examine the distance with the card gauge.
14. Tighten the screws **1** on the 2 sides of the machine.

Result The carding elements in the licker-in area are adjusted.

7.11.5.12 Removing the Blockage in the Licker-In Unit

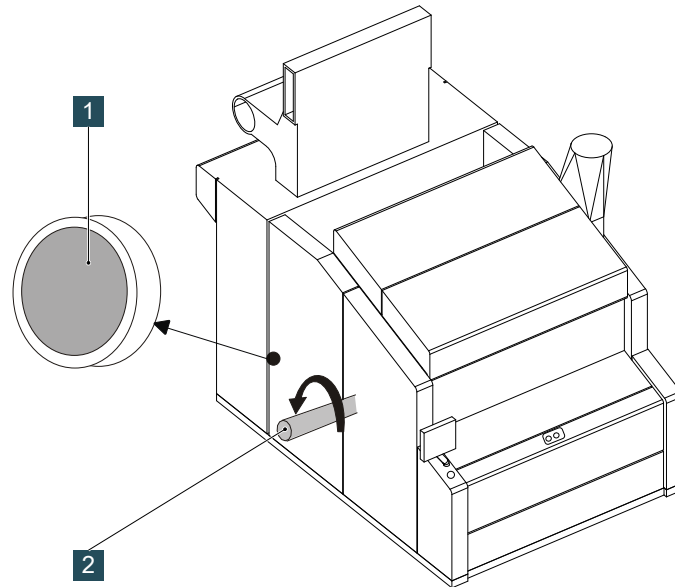


Figure 287: Button to turn the feed roller rearward at the licker-in unit

1. Make sure that the delivery unit of the card is at a standstill.
2. Open the feed channel (refer to ► 298).
3. Push and hold the feed roller backward button **1**.
 - ⇒ The feed roller **2** turns backward.
 - ⇒ The fed-in batt is pushed back out by the feed roller **2**.
4. Remove the waste batt from the licker-in unit.
5. Close the feed channel.

Result The blockage in the licker-in unit is removed.

7.11.6 Setting the Cylinder

This section contains the information about how to set the cylinder.

7.11.6.1 Setting the Initial Point of the Central Scale

This procedure is only used to compensate the wear of the clothing.

After the machine operates for some time, the carding gap increases because of the wear of the cylinder clothing and the card flats clothing.

1. Measure the carding gap.

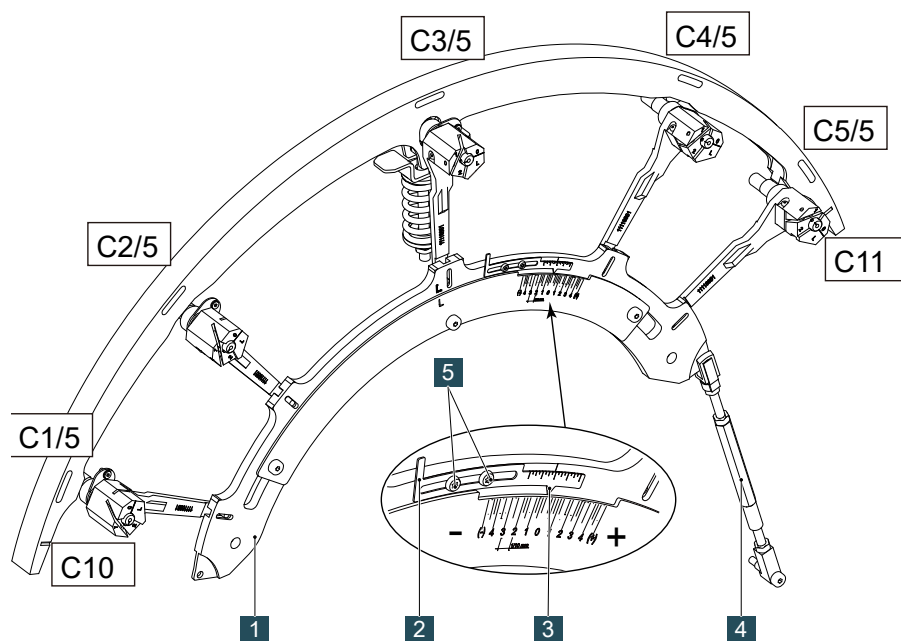


Figure 288: Central scale in the cylinder

2. If the carding gap is increased, adjust the adjusting device **4** and move the control plate **1** in negative direction to get the correct value.
3. Loosen the screws **5** to adjust the scale **2**.
4. Make the indicator **3** point at the position of 0 point.

Result The initial point of the central scale is set.

Examples of Setting the Initial Point of the Central Scale

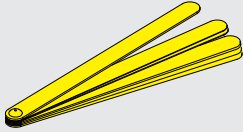
The user sets the carding gap to 0.2 mm by doing the fine adjustment. After the machine operates for some time, the carding gap increases to 0.25 mm because of the wear.

The user must do the procedure that follows.

1. Move the control plate **1** by means of the adjusting device **4** in the negative direction in order to get the correct carding gap.
⇒ The indicator **3** point will show the value -0.05
2. Loosen the screws **5** to make the indicator point at the position of 0 point.

Result The initial point of the central scale is set.

7.11.6.2 Adjustment Carding Gap of the Card Flats

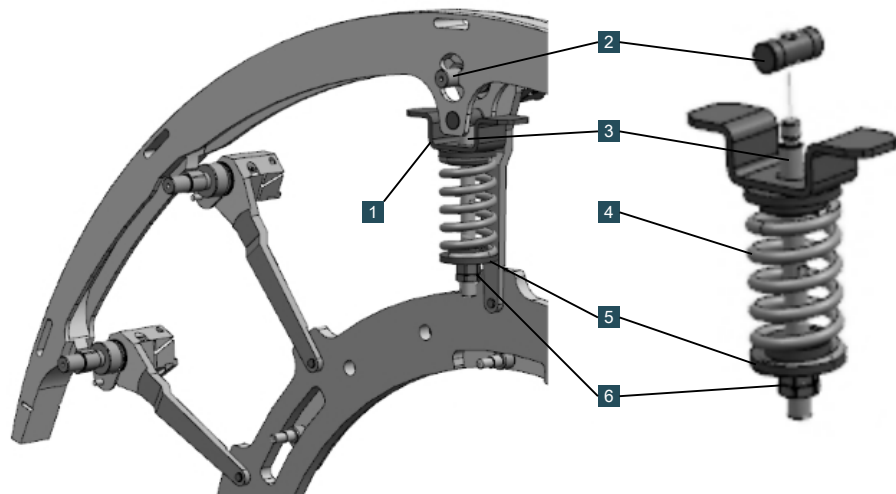
Tools	Tool	Tool Name	Function Description
		Card gauge	The card gauge is used to measure the distance between the machine parts.
		Load spring for card flats	The load spring is used to push the card flats onto the flexible bends.

Element used

The suspension must be set to the required pretension.

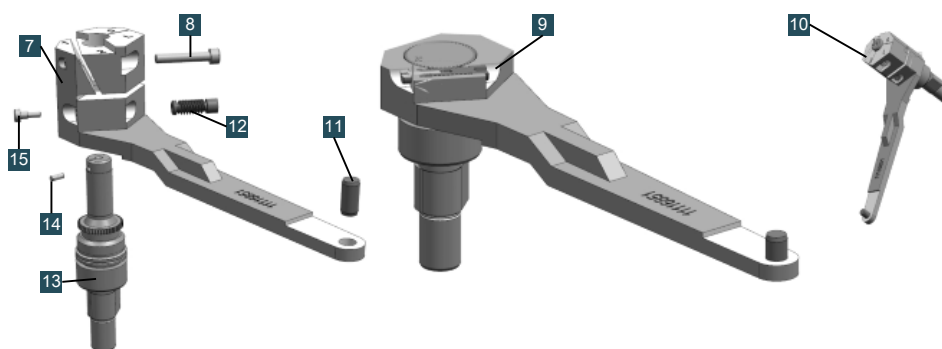
The top adjustment point C3/5 fixes the flexible bend **15** of the suspension **1**, which presses the flexible bend **15** against a premounted adjusting cam **10**.

The suspension has the parts that follow:



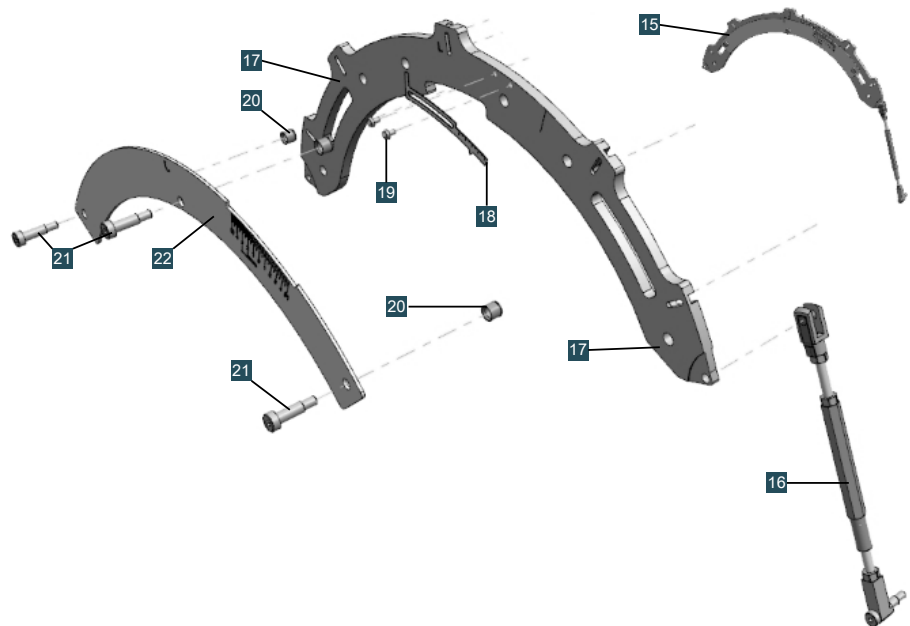
The suspension **1** has the parts as follows:

- Bolt **2**
- Threaded rod **3**
- Nut **6** and lock nut **6**
- Special washer **5**
- Spring **4**



The premounted adjusting cam **10** consists of the parts that follow:

- Adjusting cam **13**
 - Set screw **14**
 - Cylindrical pin **11**
 - Cylindrical fit bolt **15**
 - Cylindrical screw **8**
 - Adjustment axle worm C80 **12**
1. If the cylinder screw **8** is turned counterclockwise, the adjusting cam **13** in the lever is unblocked. If the cylinder screw **8** is turned clockwise, the adjusting cam **13** is blocked.
 2. If the adjustment axle worm **12** is turned clockwise, the carding gap is increased. If the adjustment axle worm is turned counterclockwise, the carding gap is decreased.
 3. The adjusting cam **13** must be unblocked when setting the adjustment axle.
 4. The premounted adjusting cam **13** is moved over this pin **11** by the guide plate.
One 1/4 turn causes a movement of 0.025 mm.



The guide plate **15** has the parts as follows:

- Guide plate **17**
- Actuator scale **22**
- Cylindrical fit bolt **21**
- Drill bushing **20**
- Adjustment device **16**
- Scale **18**
- Oval-head screw **19**

7.11.6.2.1 Fine Adjustment

If working sequentially: Set the adjustment points on the left and right at the same time together with the cylinder.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The reference flat is found.
 - ✓ The narrowest point between the cylinder and a cover is found and identified on the drive pulley.
1. Check the pretension X of the pretensioning spring
 2. Move the cover in test mode to move the reference cover to measurement point C1/5.
 3. To align the closest point to the measurement point C1/5, turn the cylinder by hand, until the sign on the drive pulley is along the C1/5.
 4. Set the carding gap at the measurement point C1/5 refers to the setting sheet on 2 sides of the machine.

5. Do the same procedure at measurement point C2/5, C3/5, C4/5, and C5/5.
6. Lock all adjusting cams.
7. Move the reference flat to the measurement point C1/5.
8. Test the carding gap at measurement point C1/5 and adjust the carding gap if necessary.

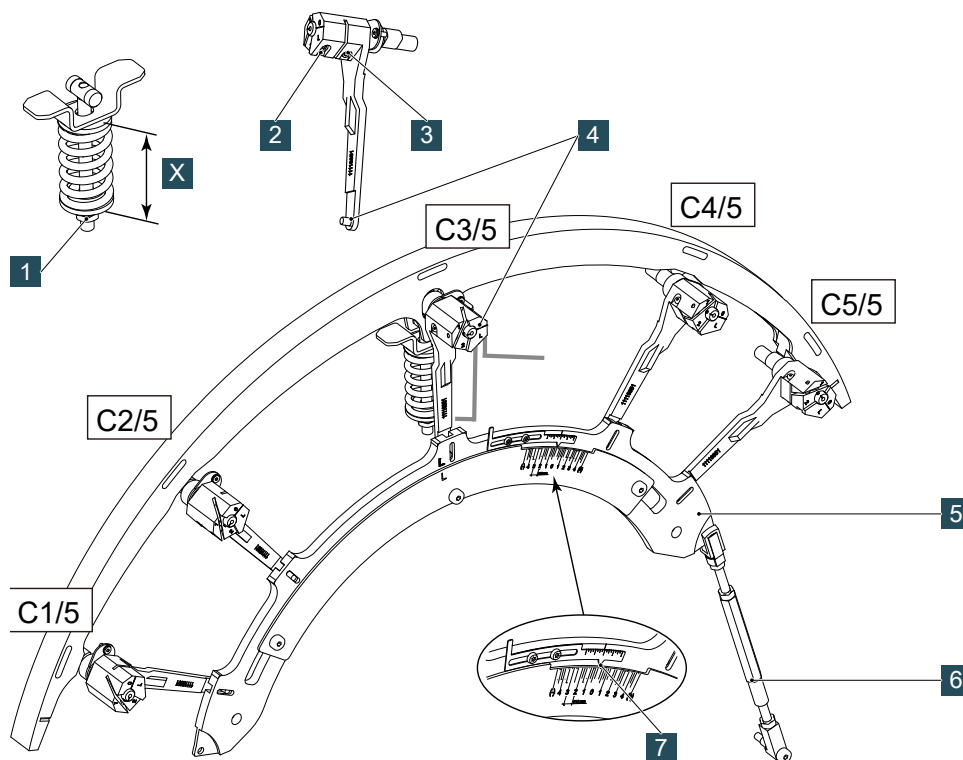
Result The fine adjustment is done when the tolerance of the setting 0.02 mm is reached (smallest setting gauge).

7.11.6.2.2 Adjusting cam

Setting the Adjusting Cam

Objective: The scale indicates zero (0) and the adjusting cams are set as described in the setting sheet.

Comment: If the scale indicates zero, the preliminary values for C1/5 to C5/5 are in line with those in the setting sheet.



The adjusting cam 4 is used to change the position of the flexible arch.

1. To unlock the adjusting cam, use a hexagonal key turn the screw 2 counterclockwise.
2. To set the carding gap wider, use a hexagonal key turn the screw 3 clockwise.

3. To set the carding gap narrower, use a hexagonal key turn the screw **3** counterclockwise.
4. To lock the adjusting cam, use a hexagonal key turn the screw **2** clockwise.

Preliminary Setting

If working in parallel: Set one side first, then the opposite side.

1. Set the preparation of the loading spring
2. On two sides of the machine, adjust the setting device **6** and move the control plate **5** to make sure that the central scale **7** shows the 0 point.
3. Unlock all adjusting cams **4**.
4. Make sure that the flats are in the middle of each measurement point window.
5. At the measurement point C2/5 and C4/5, turn the screw **3** counterclockwise until the adjusting cams are unloaded.
6. Set the carding gap at the measurement point C1/5 and C5/5.
7. Set the carding gap at the measurement point C3/5.
8. Measures the spring length **X**.
9. If the spring length **X** is not 92 mm, set the spring tension to 92 mm and mark the setting for C3/5 on the drive pulley
10. Measure the carding gap at measurement C2/5 and C4/5 to select the narrower one.
11. Set the narrowest of the measurement points between C2/5 and C4/5 first and then set the second narrowest.
Note: To increase the carding gap when setting the adjusting cams, turn the adjustment worm clockwise. To reduce the carding gap, turn the adjustment worm counterclockwise. The worm gear unit must always be under load.
12. Adjust the deflection elements to set the carding gap at measurement point C10 and C11.
13. Lock all the adjusting cams or start immediately the fine adjustment

Result The rough adjustment is done when the setting is ± 0.05 mm within the tolerance.

7.11.6.3 Adjustment of the Distance

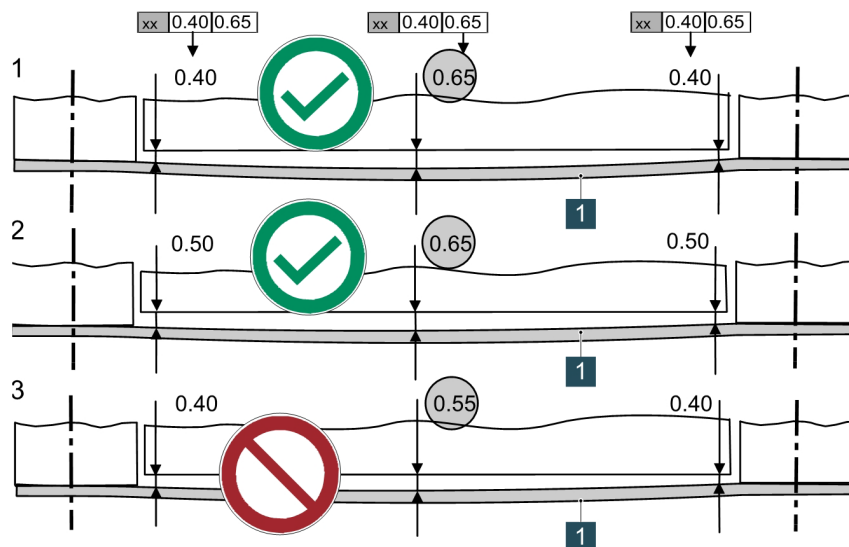


Figure 289: Distances at the cylinder

Priority	Dimension
Priority 1	Second dimension (center of the cylinder)
Priority 2	First dimension (edge of the cylinder)

The elements around the cylinder have concave shapes. Thus, the distance that is measured between the element and the cylinder is always larger at the center of the cylinder.

In the machine setting sheets, the first dimension means the edge of the cylinder and the second dimension means the center of the cylinder. When the distance is adjusted, the priority 1 is to maintain the second dimension (center).

7.11.6.4 Adjusting the Cylinder Covers

1. To set the adjustment points, refer to the dimensions that are given in the adjustment guideline.
2. Examine the adjustment over the entire machine width.
3. Obey the instructions. See *Adjustment of the Distance* ► 320
4. Tighten the adjustment nuts **1** and **2** against each other.

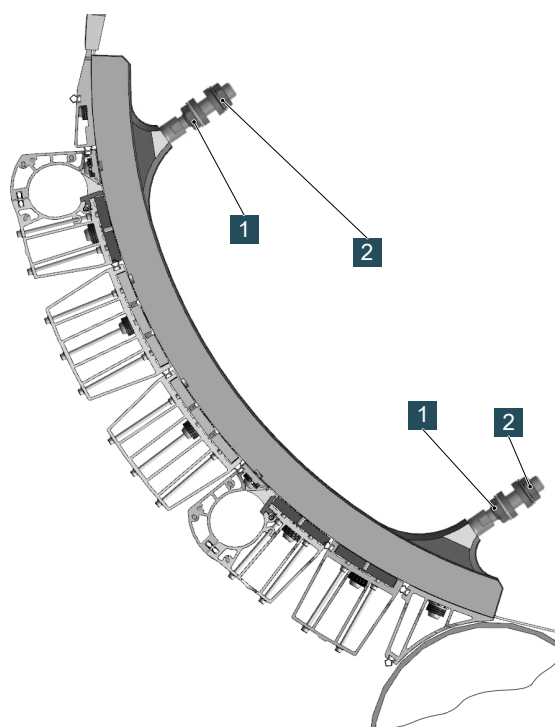


Figure 290: Cylinder covers

5. Loosen the nut **2**
6. Tighten the nut **1** to increase the distance.
7. Loosen the nut **1**
8. Tighten the nut **2** to decrease the distance.
9. Examine if the adjustment points are at the center of the machine. See *Adjusting the Stabilization of the Cylinder Covers in the Machine Center* ► 322

Result The cylinder covers are adjusted.

7.11.6.5 Adjusting the Stabilization of the Cylinder Covers in the Machine Center

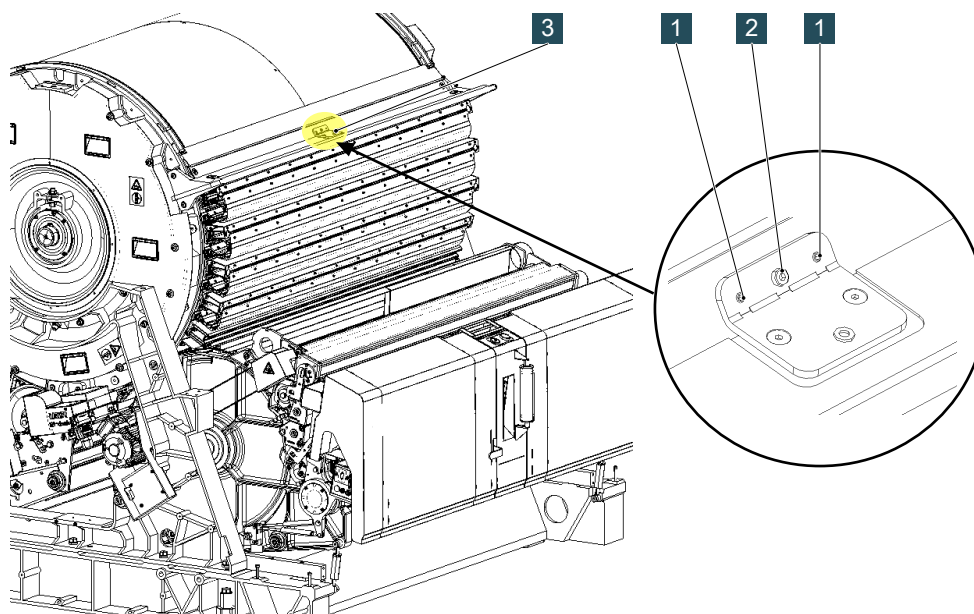


Figure 291: Adjustment point at the front side of the cylinder

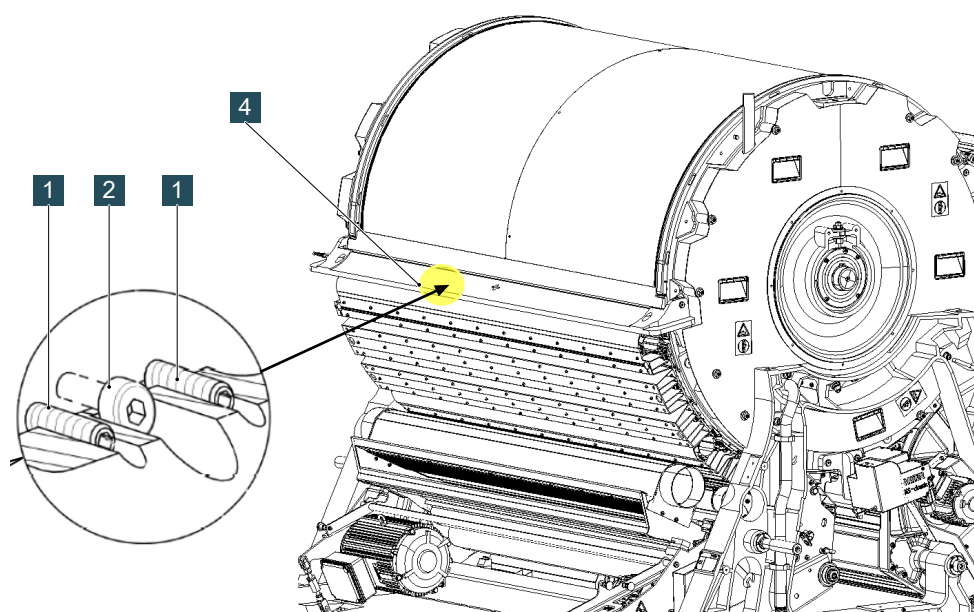


Figure 292: Adjustment point at the rear side of the cylinder

1. To set the adjustment point **3** and point **4** in the center of the machine, refer to the machine adjustment sheet.
2. Only access the adjustment points after the card flat unit is removed. See *Removing the Card Flats* ▶ 791.
3. Adjust the cylinder covers. See *Adjusting the Cylinder Covers* ▶ 320

4. To increase the distance between the cylinder covers and the cylinder, loosen the screw **1** and adjust the distance with the screws **2**.
5. Tighten the screw **1** again.
6. To decrease the distance between the cylinder covers and the cylinder, loosen the screws **2** and adjust the distance with the screw **1**.
7. Tighten the screw **2** again.

Result The stabilization of the cylinder covers in the machine center is done.

7.11.6.6 Adjusting the Carding Profiles to the Cylinder Clothing

This section contains the information about how to adjust the carding profiles to the cylinder clothing (man-made fiber).

The adjustment segments are used to adjust the cylinder covers. A change in the factory settings for the cylinder covers relative to the cylinder clothing also results in a change in the factory-set distances of the carding profiles. The distance between the carding profiles and the cylinder clothing must now be adjusted with spacers.

Notch Distance	Thickness of the Spacer (mm)
Long	0.10
Short	0.05

1. Loosen the screws **5**.

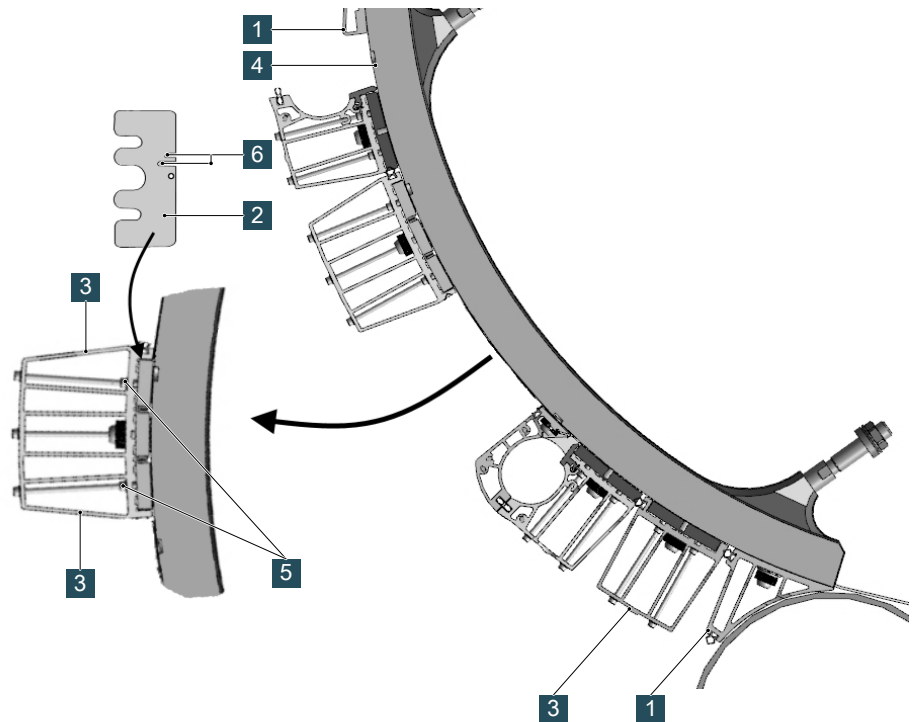


Figure 293: Adjusting the carding profiles to the cylinder clothing

2. Remove the spacer **2**.
3. Examine the notch distance **6** to get the information about the thickness of the spacer **2**.
4. Refer to the table above to get the information about the correct thickness of the spacer **2**.
5. Install the spacer **2** of the necessary thickness.
6. Move the spacer **2** between the carding profile and the cylinder clothing.
7. Tighten the screws **1**.

Result The carding profile is adjusted to the cylinder clothing.

7.11.6.7 Adjusting the Carding Profiles

This section contains the information about how to adjust the carding profiles to the cylinder clothing (cotton). A change in the factory adjustments for the cylinder covers relative to the cylinder clothing also results in a change in the factory-set distance of the carding profiles.

The distance between the carding profile and the cylinder clothing is changed through different spacers. The distance between the carding profile and the cylinder clothing must be adapted to the material.

Notch Distance	Thickness of the Spacer (mm)
Long	0.10
Short	0.05

1. Adjust the cylinder covers **1** with the adjustment segments **4**.

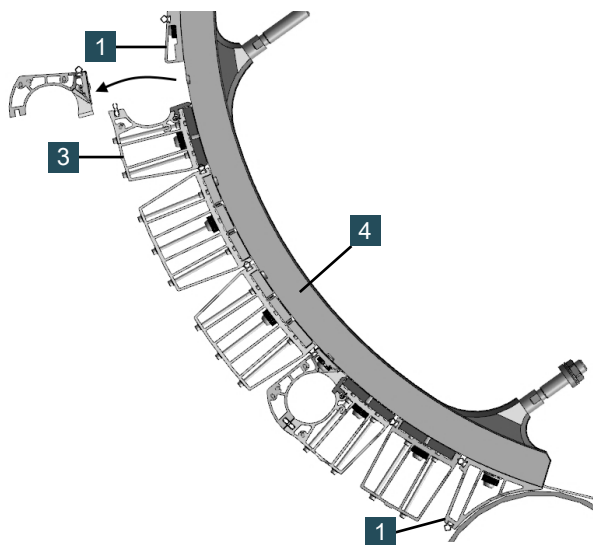


Figure 294: Adjusting the cylinder covers

2. Adjust the distance between the carding profiles **3** and the cylinder clothing with the spacers **2**.

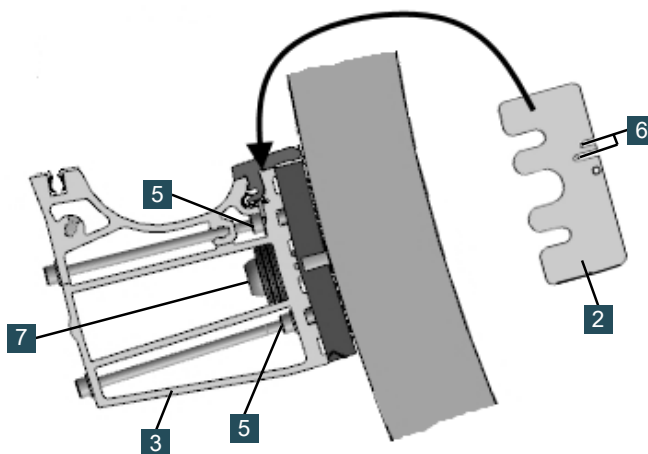


Figure 295: Adjusting the carding profiles

3. Loosen the screws **5**.
4. Remove the spacer **2**.
5. Refer to the notches **6** to get the correct thickness of the spacer **2**.
6. Install the spacer **2** of the necessary thickness.
7. Move the spacer **2** between the carding profile and the cylinder clothing.
8. Tighten the screws **5**.

Result The carding profiles are adjusted.

7.11.6.8 Adjusting the Mote Knife

This section contains the information about how to adjust the mote knife (pre-carding zone, cotton).

The adjustment segments are used to adjust the cylinder covers.

A change in the factory settings for the cylinder covers relative to the cylinder clothing also results in a change in the factory-set distances of the mote knives.

The distance between the mote knives and the cylinder clothing is adjusted with spacers.

Notch Distance	Thickness of the Spacer (mm)
Long	0.10
Short	0.05

Prerequisites Make sure that the criteria are obeyed:

- ✓ The adjusting segment is adjusted.
- ✓ The cylinder cover is adjusted. See *Adjusting the Cylinder Covers* ► 320
- ✓ The instructions for fastening the cylinder covers is obeyed.

✓ The carding element is removed.

1. Measure the distance between the cylinder clothing **7** and the mote knife **5**.

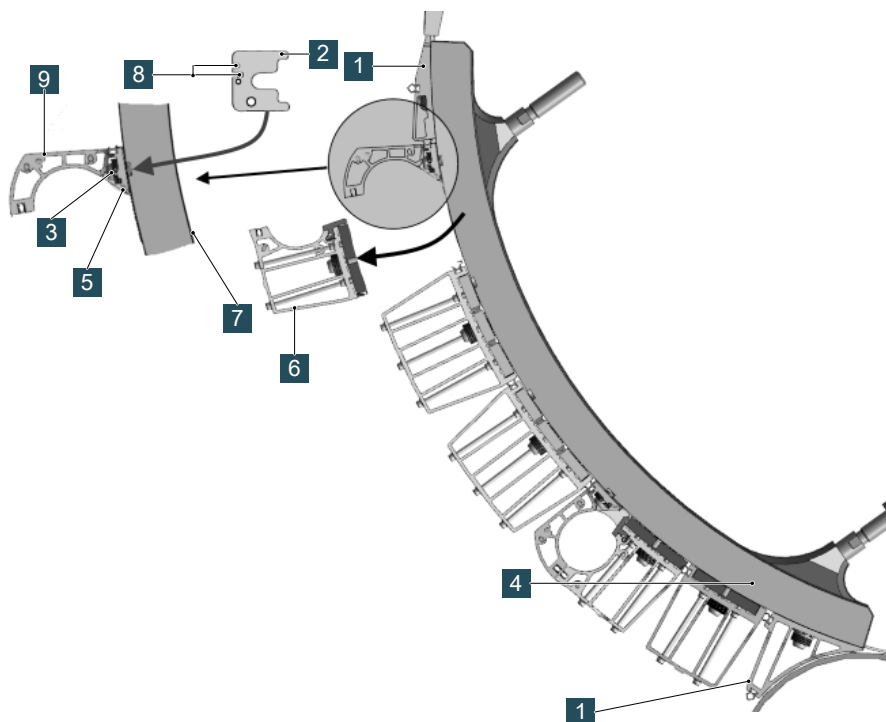


Figure 296: Measuring the distance

⇒ If the test gauge is caught between the cylinder clothing **7** and the mote knife **5**, the adjustment is incorrect.

2. Remove the screw **3**.
3. Remove the support **9**.
4. Remove the spacer **2**.
5. Examine the notch **8** to get information about the correct thickness of the spacer **2**.
6. Refer to the table above to select correct thickness of the spacer **2**.
7. Adjust the distance with the supplied spacer **2**.
8. Measure the distance between the mote knife **5** and the cylinder clothing **7** again.
9. Make sure that the distance is the same on the left side and the right side of the machine.
10. Install the support **9** with the screw **3**.
11. Examine the adjustment.
12. Install the carding element **6**.

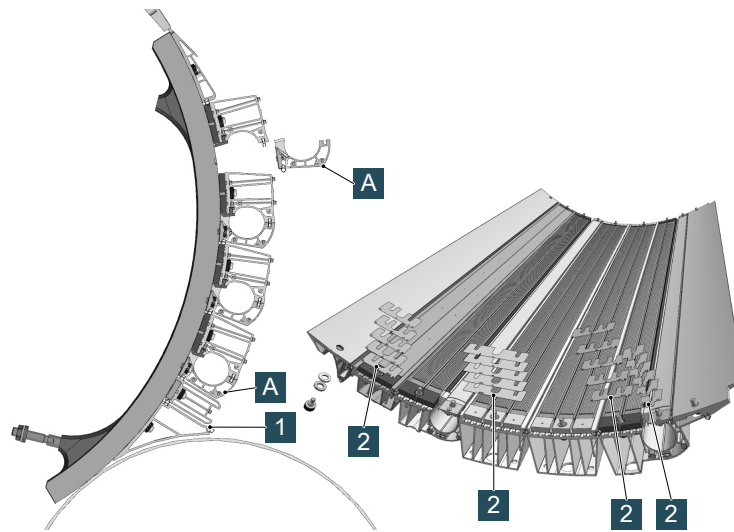


Figure 297: Adjusting the mote knife

Result The mote knife is adjusted.

7.11.6.9 Adjusting the Extraction Distance of the Mote Knife

Extraction Opening (Pre-Carding Zone / Post-Carding Zone)	
Largest distance	Strip number 0
Larger distance	Strip number 2
Standard distance	Strip number 5
Smaller distance	Strip number 8

1. Adjust the carding profiles relative to the cylinder clothing (pre-carding zone, cotton).
2. Adjust the mote knife **1** (pre-carding zone and post-carding zone, cotton).

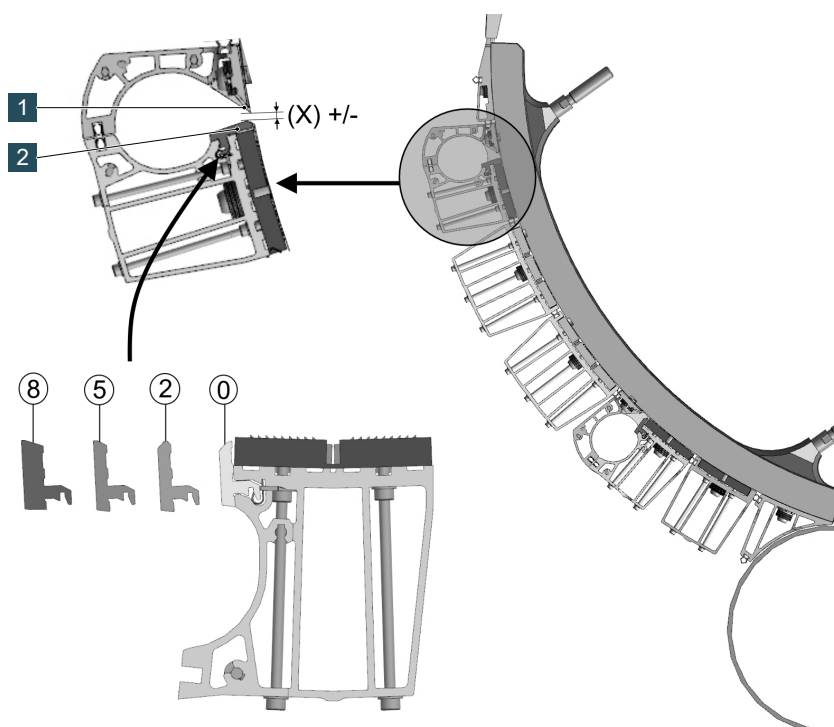


Figure 298: Adjusting the extraction distance of the mote knife

3. Write numbers on the strips for an easy identification.
4. Remove the strip **2**.
5. Put the correct strip **2** to adjust the extraction distance **X**.

Result The extraction distance of the mote knife is adjusted.

7.11.6.10 Attaching the Torque Screw on the Sealing Plate

Normally the sealing plate remains installed on the tongue. Only a damaged sealing plate must be removed from the tongue.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The non-hardening Loctite 243 is to be used.
1. Apply a few drops of non-hardening Loctite 243 to the torque screw **2**.

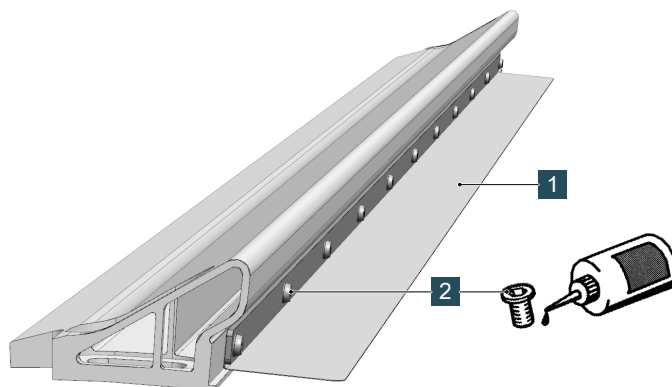


Figure 299: Sealing plate on the tongue

2. Tighten the torque screw **2** with a torque of 1.20 Nm into the sealing plate **1**.

Result The torque screw is attached on the sealing plate.

7.11.6.11 Adjusting the Tongue Position

1. Move the tongue until the edge **3** of the tongue **1** is at the correct position on the 2 sides of the scale **2**.

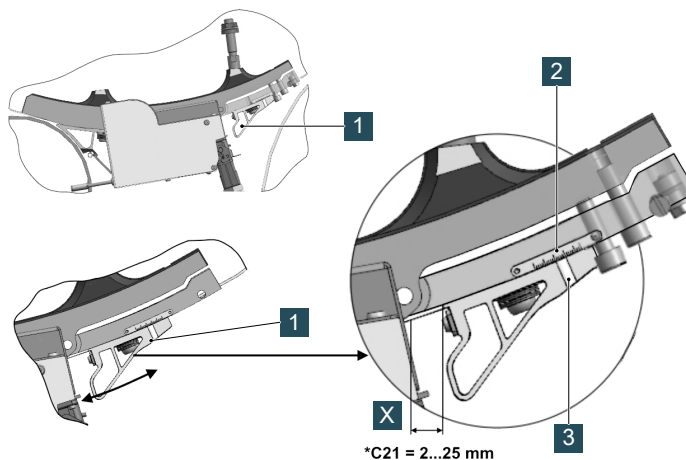


Figure 300: Adjusting the tongue position

2. Make sure that the distance **X** between the tongue and the fiber transfer point at the doffer is in the range of approximately 2 – 25 mm. See *Machine Setting Sheets* ▶ 250
3. To close the opening between the tongue and the cylinder cover or the related IGS-classic, use a seal strip for the optional setting of the tongue.

Result The tongue position is adjusted.

7.11.6.12 Adjusting the Distance between the Tongue and the Cylinder

For problems with the fiber transfer point at the doffer, in addition to the tongue / cylinder distance, the tongue / doffer position is also to be taken into account.

When the cylinder cover is installed and the doffer is adjusted, the distance between the tongue and the cylinder clothing is only possible to be measured via the measurement between the control eccentric and the cylinder shield. If the control eccentric is adjusted correctly, this measurement corresponds to the distance between the tongue and the cylinder.

Do not adjust the control eccentric.

1. To increase the distance between the tongue and the cylinder, loosen the screw **2** and tighten the screw **3**.

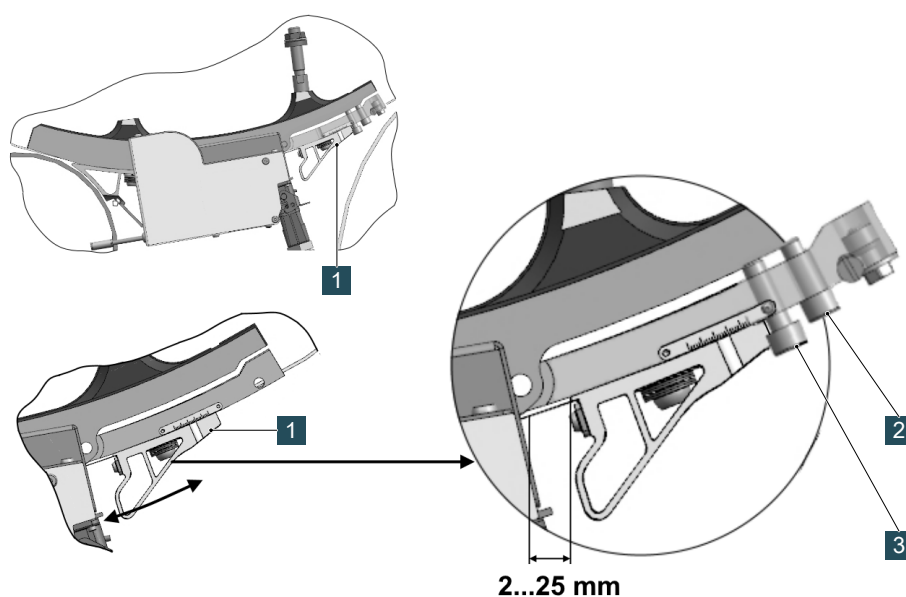


Figure 301: Distance between the tongue and the cylinder

2. To decrease the distance between the tongue and the cylinder, loosen the screw **3** and tighten the screw **2**.
3. To adjust the distance, only tighten the screws **2** and **3** but not fully against each other.
4. If necessary, adjust the tongue position.

Result The distance between the tongue and the cylinder is adjusted.

7.11.7 Setting the Card Flats

This section contains the information about how to set the card flats.

7.11.7.1 Setting Values of the Card Flats

This section contains the information about how to adjust the values of the card flats.

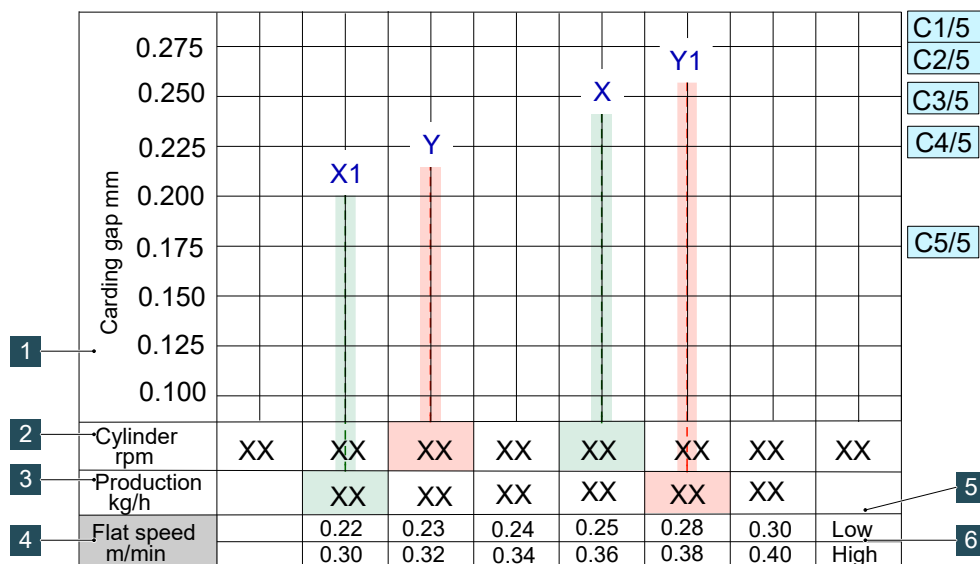


Figure 302: Adjustment values of the card flats

1	Carding gap	2	Cylinder speed
3	Production for each hour	4	Card flat speed
5	Low	6	High

The selection points for the carding gap adjustment are as follows:

- Cylinder speed (rpm)
- Production rate (kg/h)

The parameter that causes the larger card distance, is selected.

- Example X: The cylinder speed X is high but the production rate X1 is low.
 - In this condition, the card flat for the high cylinder speed X is adjusted.
- Example Y: The cylinder speed Y is low but the production rate Y1 is high.
 - In this condition, the card flat for the high production rate Y1 is adjusted.

7.11.7.2 Selecting the Carding Gap

Carding gap mm	0.275																	C1/5
	0.250																	C2/5
	0.225																	C3/5
	0.200																	C4/5
	0.175																	C5/5
	0.150																	
	0.125																	
	0.100																	
Cylinder rpm		XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
Production kg/h			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
Flat speed m/min	Low	0.22	0.23	0.24	0.25	0.28	0.30											
	High	0.30	0.32	0.34	0.36	0.38	0.40											

Figure 303: Fine rotor yarns

C1/5 – C5/5 Larger carding gap during the run-in phase of new card flat clothing 0.05 mm

Increased carding gap during the run-in phase of new card flat clothing.

Time of the run-in phase: 0.05 mm
approximate 15 t

1. Refer to the material to select the applicable setting values from the setting sheet. See *Machine Setting Sheets* ▶ 250
2. Examine if the installed card flat clothing is new clothing or used clothing.
3. If the card flat clothing was used before, refer to the diagram to do the correct adjustments.
4. Select the correct adjustments through trials, to get the maximum productivity along with quality.
5. If the installed card flats are new, adjust the carding gap during the run-in phase.
⇒ After the run-in phase the card flats has to be leveled.
6. Record the adjusted values in the adjustment sheet.
⇒ The card flats are set.

Result The correct carding gap is selected.

7.11.7.3 Entering the Card Flat Speed

Card flat speed	0.10 – 0.60 m/min
-----------------	-------------------

1. Select the speed of the card flat based on the material and the production rate from the setting sheet. See *Machine Setting Sheets* ▶ 250
2. Enter the card flat speed in the data screen 2.1.3.
⇒ The card flat speed is aligned with the material.

Result The card flat speed is entered.

7.11.7.4 Moving the Card Flats for the Adjustment

1. Select the operating mode **Service mode** in the data screen 4.1.5 **Operating mode change**.
2. Select the data screen 4.1.6.3 **Service of flats and clothing**.
3. Select the mode in the field **Carry out servicing** as **Flat measurement**.
⇒ The measurement mode starts.
4. Push and hold the start button, until the card flat is at the measuring point.
⇒ The card flat is at the measuring point.
⇒ The first card flat is set.
5. Push the stop button, and then push simultaneously the start button.
⇒ The measurement mode is in operation.
⇒ The message **Carding gap measurement, position 1** is shown.
6. Push the start button.
⇒ The card flat that is set before is moved to the next measuring point and then stops automatically.
⇒ The message **Carding gap measurement, position 2** is shown.
7. Set all card flats with the same procedure.
8. Push the stop button.
⇒ The measurement mode is stopped.

Result The card flats are moved for adjustment.

7.11.7.5 Moving the Card Flats Backward

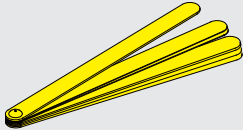
1. Enter the password in the level 3.
2. Select the mode **Service mode** in the data screen 4.1.5 **Operating mode change**.
3. Select the data screen 4.1.6.3 **Service of flats and clothing**.
4. Select the operation as **Flat reversal** in the mode **Carry out servicing**.

5. Push the start button.

Result The card flats moved backward.

7.11.7.6 Measuring the Carding Gap

For a correct measurement result, the load spring for the card flats must be used to make sure that the card flats are always pushed onto the flexible bend with the same force.

Tools	Tool	Tool Name	Function Description
		Card gauge	The card gauge is used to measure the distance between the machine parts.
		Load spring for card flats	The load spring is used to push the card flats onto the flexible bends.

Prerequisites Make sure that the criteria are obeyed:

- ✓ 2 load springs for card flats are to be used.
- ✓ The card gauge is to be used.

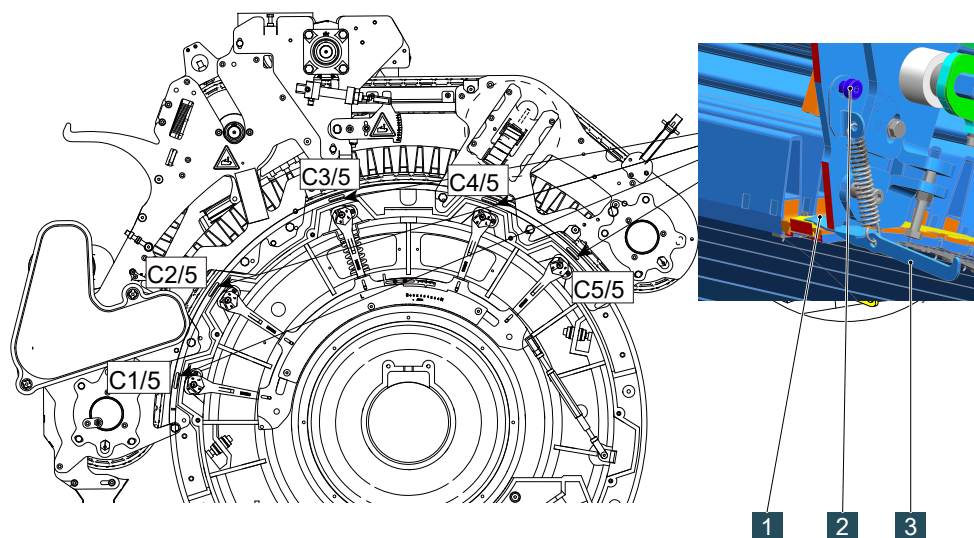


Figure 304: Measuring the card gap

1. Set the machine to test mode.
2. Move the card flats to align the flat to the target measuring point.
3. Stop the machine.
4. Hook the load spring on the screw **2**.
5. Put the front part of the load spring **1** into slot which is above the measurement point.

6. Push the handle **3** to insert the front part of the load spring into the slot.
⇒ The load spring is installed.
7. Install the second load spring at the other side of the machine.
8. Put the card gauge into the measurement point.
9. Hold the card gauge behind the joint and move the card gauge slowly between the cylinder and the flat to examine the carding gap carefully.
10. Analysis the resistance of the card gauge between the card flat clothing of the cylinder clothing.
11. Measure the carding gap at measurement point for the other side of the machine with the same personnel.

Result The carding gap at measurement point is measured.

7.11.7.7 Finding the Closest Point From Flat to the Cylinder

The carding gap adjustment is done at the cylinder closest point to the flat. The roundness of the cylinder is in a tolerance range. That means some area of the cylinder clothing is closer to the card flat clothing than other areas of the cylinder clothing.

1. Measure the carding gap at measurement point C3/5 on 2 sides of the machine.
2. Turn the cylinder with 20 degrees by hand.
3. Measure the carding gap at the measurement point C3/5 on 2 sides of the machine.
4. Do the procedures 2 and 3 until find the position of the cylinder where the carding gap is the smallest.
5. Mark the position of the cylinder with a marker pen.

Result The closest point of cylinder is found.

7.11.7.8 Selecting the Reference Card Flat

The reference card flat is the card flat that is closest to the cylinder clothing. The smaller the carding gap (fine spinning) the more important it is to do the adjustment only with the reference card flat. Finding the closest card flat makes sure that the damage to the card flat clothing does not occur.

1. For the fine spinners, measure all the card flats at 1 measuring point to find the reference card flat.
2. For the coarse spinners, measure 20 pieces of card flats at 1 measuring point to find the reference card flat.
3. Mark the reference card flat with a marker pen.

Result The reference card flat is selected.

7.11.7.9 Adjusting the Deflection Pulleys of the Card Flats

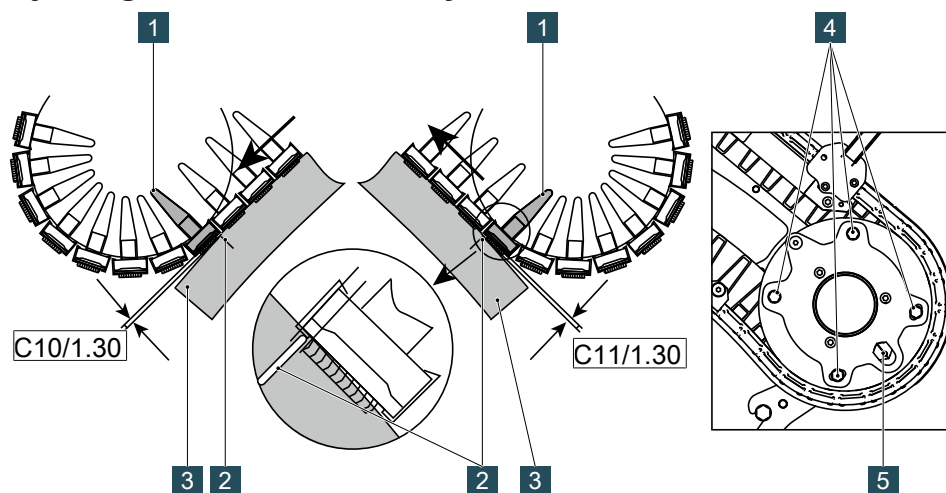


Figure 305: Adjusting the deflection pulleys

1. Put the outgoing or the ingoing of the card flat **1** accurately on the mark **2** of the flexible bend **3**.
2. Loosen the screws **4**.
3. Set the adjustment points C10 and C11 with the eccentric **5**.
4. Tighten the screws **4**.

Result The deflection elements of the card flats are adjusted.

7.11.8 Setting the Delivery Unit

This section contains the information about how to set the delivery unit.

See also

📖 Calibrating the Distance Measurement Device [► 358]

7.11.8.1 Adjusting the Sliver Weight in the Slow Speed

2.3.1.1 Delivery unit settings		7:57:27
8118 Delivery normal		
Leveling of sliver weight	On	
Reset draft to default value	No	
Sliver weight during piecing-up	5.00	ktex
Compensation Fiber tuft	700	%
Sliver weight adaption during creep speed	Yes	
Compensation of sliver weight	20.00	%
Sliver weight deviation	0.0	%
Adjusted current waste	0.0	%
Automatic acceleration	No	
Min. delivery draft	1.25	
Eff. delivery draft	0.00	
Max. delivery draft	2.25	
Minimum time to stop doffer	0 s	

Figure 306: Data screen 2.3.1.1 settings card delivery

Adaptation sliver weight at creep speed

Default value for cotton	80%
--------------------------	-----

Prerequisites Make sure that the criteria are obeyed:

- ✓ The sliver weight is corrected in the data screen 2.1.2 **Sort sliver**.
- 1. Operate the card at the fast speed for minimum 15 minutes.
- 2. Operate the card at low speed.
- 3. Select **Yes** in the field of **Sliver weight adaption during creep speed**.
- 4. Wait more than 2 mins until the sliver weight in the slow speed is adjusted by the system automatically.

Result The sliver weight in the slow speed is adjusted.

7.11.8.2 Adjusting the Draft between the Card and Coiler

1. Enter the password of the authorization level 1.
2. Select the data screen 2.3.2.1.

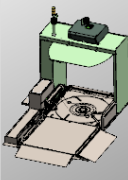
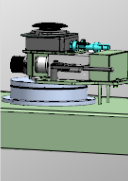
2.3.2.1 Coiler Settings I		7:59:16	
8118 Delivery normal			
	Empty can warning	5000	m
	Deliv. can change, card	150	m/min
	Draft card to coiler	1.05 ... 1.05	
	Can change sliver channel blow-in time	1 min	0 s
	Max. time, funnel to top	2.0	s
	Length of sliver separation	0.01 s	25 mm
	Man. can change, lower speed	On	

Figure 307: Data screen 2.3.2.1 Settings coiler I

1 Draft at slow speed**2** Draft at full speed

3. Operate the card at full speed, check the tension of the sliver between the card and the coiler.
 - ⇒ The sliver has to be smooth and not too tight.
4. If not, decrease or increase the max value in the filed **2**.
5. Operate the card at full speed, check the tension of the sliver between the card and the coiler.
 - ⇒ It has to be smooth and not too tight, but the sag of the sliver must slowly disappear after thread-in procedure in the coiler.
6. If not, decrease or increase the max value in the filed **1**.
7. Make sure that the tension of the sliver is not too tight at the creep speed, otherwise the sliver will be broken.

Result The draft between the card and the coiler is adjusted.

7.11.8.3 Setting the Draft for the Delivery Rollers and the Take-off Roller

Draft for the Delivery Rollers and the Take-off Roller

To make the draft ratios better, refer to the delivery speed and the raw material. The controller calculates the output draft (VA3) for the set delivery speed.

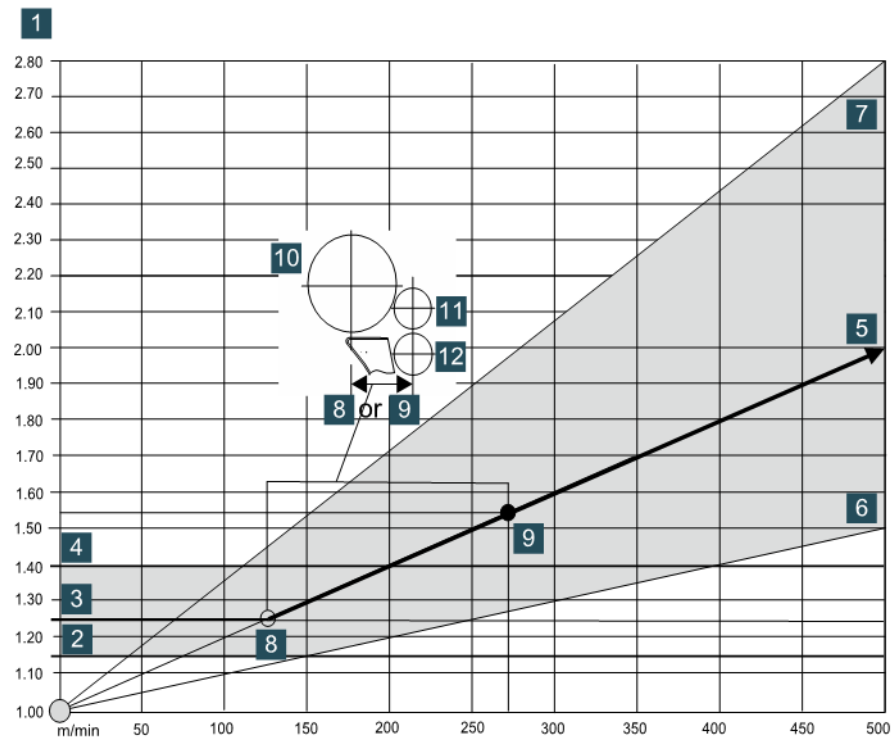


Figure 308: Selection of the draft

- | | |
|---|--|
| 1 Drafting zone between the take-off roller and the delivery rollers (maximum 2.80). | 2 Minimum adjustable draft at the low delivery speed |
| 3 Set draft at the low delivery speed. (Data screen 2.3.1.1 Delivery draft min.) | 4 Maximum adjustable draft at the low delivery speed |
| 5 Set draft at the high delivery speed. (Data screen 2.3.1.1 Delivery draft min.) | 6 Minimum adjustable draft at the high delivery speed |
| 7 Maximum adjustable draft at the high delivery speed | 8 The draft in the intersection of the set draft at the low delivery speed to set the draft at the high speed. The draft increases with a higher delivery speed starting at the intersection point. |
| 9 Calculated, correct draft between the take-off roller and the delivery rollers because of the set drafts minimum / maximum (data screen 2.3.1.1 Delivery draft eff). | 10 Take-off roller |
| 11 Delivery rollers | 12 Delivery rollers |

Setting the Draft for Delivery Rollers and the Take-off Roller

Delivery draft in the data screen 2.3.1.1

Draft: Min. delivery draft	1.15 – 1.4 Draft at slow speed
Draft: Eff. delivery draft	Draft at set speed
Draft: Max. delivery draft	1.4 – 2.8 Draft at high speed



CAUTION

Turning pulleys and belts!

Injury because of the turning pulleys and belts.

- Do not touch the turning parts.
- Wear applicable clothing.

1. Open the door **2** of the delivery unit at the left side.

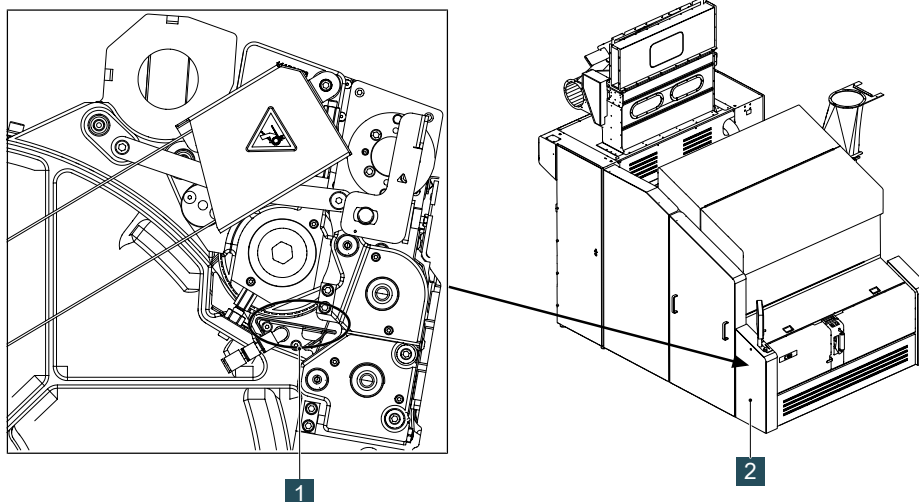


Figure 309: Examination the web at the web bridge

2. Start the production with the doffer at the slow speed.
3. **CAUTION! Turning pulleys and belts! Injury because of the turning pulleys and belts.** Examine the web on the web bridge **1** with a flashlight.
4. If the web does not make any wave, the draft is correct.
5. If the web makes a wave, increase the draft in the field **Min. delivery draft** in the data screen 2.3.1.1 until the wave disappears.
6. Start the production with the doffer at the production speed.
7. Examine the web on the web bridge **1** with a flashlight.

8. If the web has large wave, increase the draft in the field **Max. delivery draft** in the data screen 2.3.1.1 until the wave disappears.
9. If the web does not have a wave, decrease the draft **Max. delivery draft** in the data screen 2.3.1.1 until the web makes a small wave, then increase the draft until the wave just disappears.

Result The draft for the delivery rollers and the take-off roller is set.

7.11.8.4 Adjusting the Draft between the Doffer and the Take-off Roller

The Draft between the Doffer and the Take-off Roller

Dimension of pulley	Draft
69.6 mm	1.16
72.7 mm (default)	1.11 (default)
76.0 mm	1.06

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



CAUTION

Turning pulleys and belts!

Injury because of the turning pulleys and belts

- Only remove the safety cover of the pulleys and belts when the machine is at the standstill.

1. Open the folding door at right side of the machine.
2. Open the delivery unit hood **11** at right side of the machine.

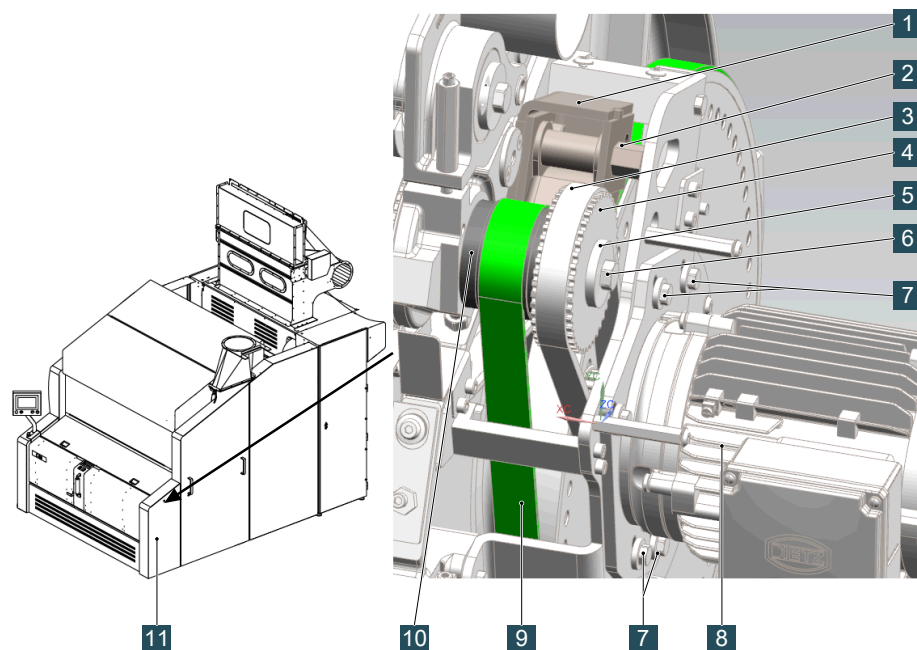


Figure 310: Drafting point WA2

3. **CAUTION! Turning pulleys and belts! Injury because of the turning pulleys and belts.** Remove the safety cover of the pulleys.
4. Loosen the screws **7**.
5. Lift the motor **8** with a small distance to release the tooth belt **3**.
6. Remove the tooth belt **3**.
7. Remove the screw **6**.
8. Remove the washer **5**.
9. Remove the pulley **4**.
10. Turn the lever **2** to release the tension of the belt **8**.
11. Remove the belt **9**.
12. Remove the pulley **10**.
⇒ The pulley is removed.

Installing the Pulley

1. Select the correct dimension of the doffer pulley refer the table above.
2. Install the pulley **10**.
3. Install the belt **8**.
4. Install the pulley **4**.
5. Install the tooth belt **3**.
6. Install the washer **5**.
7. Tighten the screw **6**.

8. Turn the lever **2** to tighten the belt **9**.
9. Tighten the tooth belt **3**.
10. Tighten the screws **7** to attach the motor **8** tightly.
11. Install the safety cover.
12. Install the delivery unit door **11**.
⇒ The doffer pulley is installed.

Result The draft between the doffer to take-off roller is adjusted.

7.11.8.5 Swivel down or back the Delivery Roller Unit

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



CAUTION

Turning pulleys and belts!

Injury because of the turning pulleys and belts

- Only remove the safety cover of the pulleys and belts when the machine is at the standstill.

Swivel down the Delivery Roller Unit

1. **CAUTION! Turning pulleys and belts! Injury because of the turning pulleys and belts.** Remove the safety cover of pulleys and belts.
2. Loosen the screws **7**.

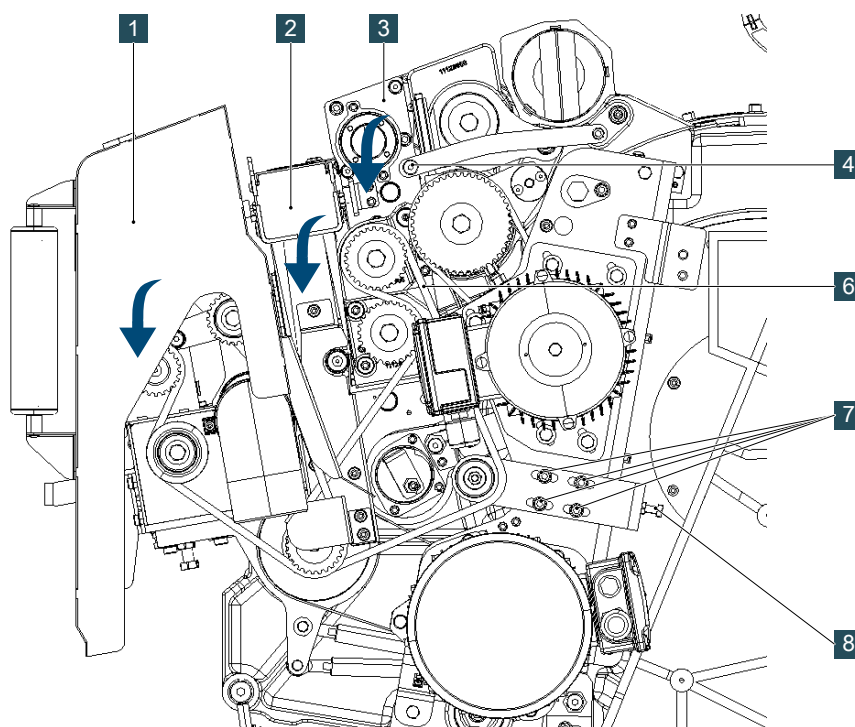


Figure 311: Swivel down the delivery unit

3. At the right side of the machine, turn the screw **8** to release the tension of the belt **6**.
4. Remove the belt **6**.
5. Remove the screws **4** on 2 sides of the machine.
6. Swivel down the disk roller unit **1**.
7. Swivel down the cross apron unit **2**.
8. Swivel down the delivery roller unit **3**.

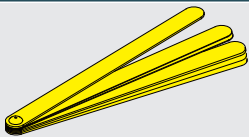
Result The delivery roller unit is swiveled down.

Swivel back the Delivery Roller Unit

1. Swivel back the delivery roller unit **3** gently.
2. Install the screws **4** at 2 sides of the machine.
3. Install the belt **6**.
4. Adjust the screw **8** to tighten the belt.
5. Tighten the screws **7**.
6. Install the safety cover of the belt and pulley.
7. Swivel back the cross apron unit **2** and the delivery disk roller unit **3** gently.
8. Examine the distance between the take-off roller and the delivery.

Result The delivery roller unit is swiveled back.

7.11.8.6 Adjusting the Distance between the Doffer to Cylinder (D03)

Tool	Tool Name	Function Description
	Card gauge	The card gauge is used to measure the distance between the machine parts.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

**WARNING****Turning doffer!**

Hand injuries

- ▶ Do Not go into the area of the doffer.
- ▶ Make sure that only approved personnel clean the doffer.

1. **WARNING! Turning doffer! Injury to the hands because of the turning doffer.** Remove the screws **1** and cover **2**.

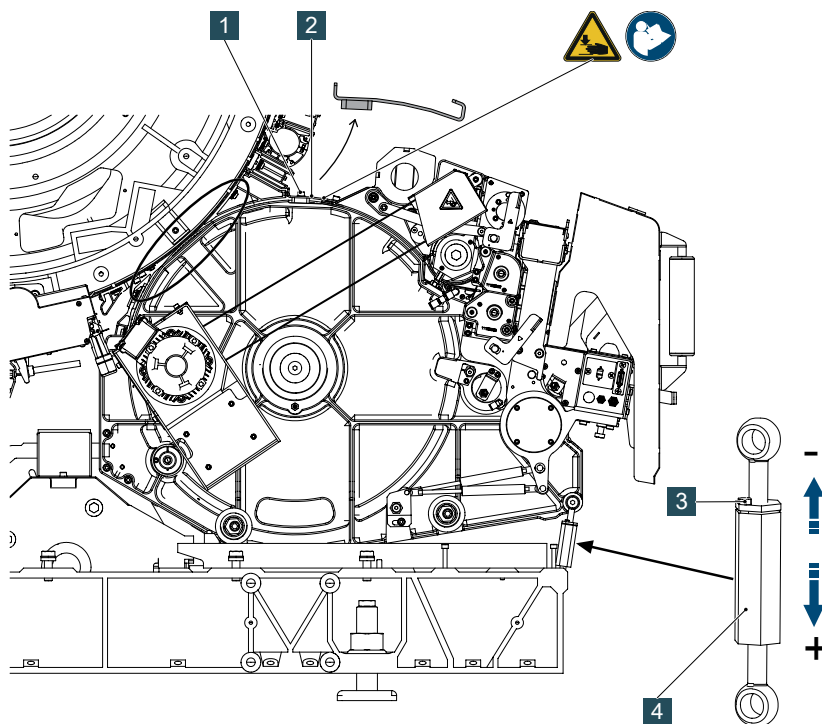


Figure 312: Adjustment of the distance between the doffer to cylinder

2. Loosen the screw **3** of the spindle **4**.
3. Turn the spindles **4** to adjusting the distance D03 between the doffer to cylinder refer to the setting sheet (refer to).

4. Use the card gauge to measure the distance over full width of the doffer.
5. Tighten the screw **3**.
6. Measure the distance with full width of the doffer again.
7. Install the cover **2** with the screws **1**.

Result The distance between the doffer to cylinder (D03) is adjusted.

7.11.8.7 Adjusting the Position of Tongue at the Doffer (D04)

Measuring point D04

The default of the D04	10 mm
------------------------	-------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. Loosen the screw **1** on 2 sides of the machine.

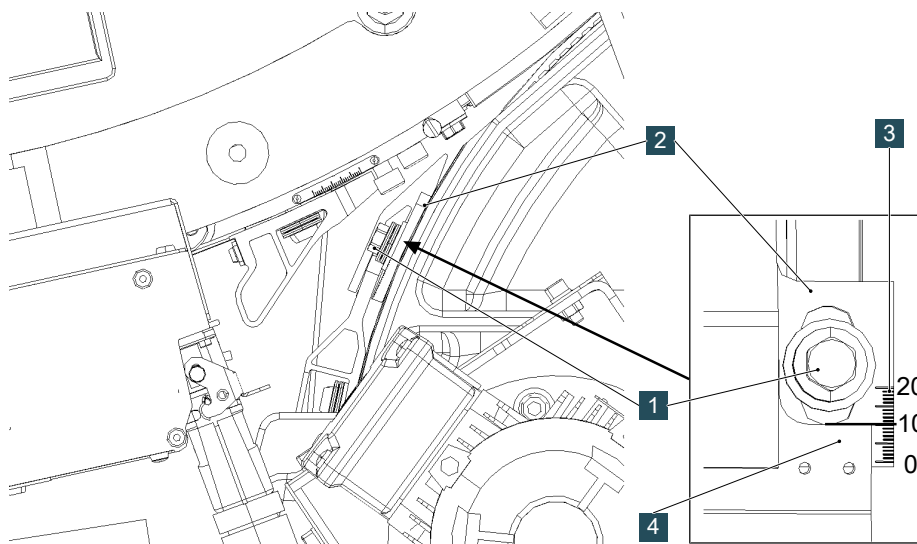


Figure 313: Tongue at the doffer

2. At the 2 sides of the machine, move the tongue **2** to adjust the position of the tongue **2** refer to the setting sheet.
⇒ The edge of the cover **4** aligned the target position of the scale **3**.
3. At 2 sides of the machine, make sure that the tongue is at the same position of the scale **3**.
4. Tighten the screw **1**.

Result The position of the tongue at the doffer (D04) is adjusted.

7.11.8.8 Adjusting the Distance between Take-off Roller and Doffer (D05)

Measuring Point D05

Default value	0.225 mm
---------------	----------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ The doors of the delivery unit are removed.



CAUTION

Turning pulleys and belts!

Injury because of the turning pulleys and belts

- Only remove the safety cover of the pulleys and belts when the machine is at the standstill.



WARNING

Turning doffer!

Hand injuries

- Do Not go into the area of the doffer.
- Make sure that only approved personnel clean the doffer.

1. **CAUTION! Turning pulleys and belts! Injury because of the turning pulleys and belts.** Remove the safety cover of the pulleys at the right side of the machine.
2. At 2 sides of the machine, loosen the nuts **2**.
3. Turn the screw **1** to adjust the distance between the take-off roller and doffer refer to the setting sheet.

⇒ The default value for the distance is 0.225 mm.

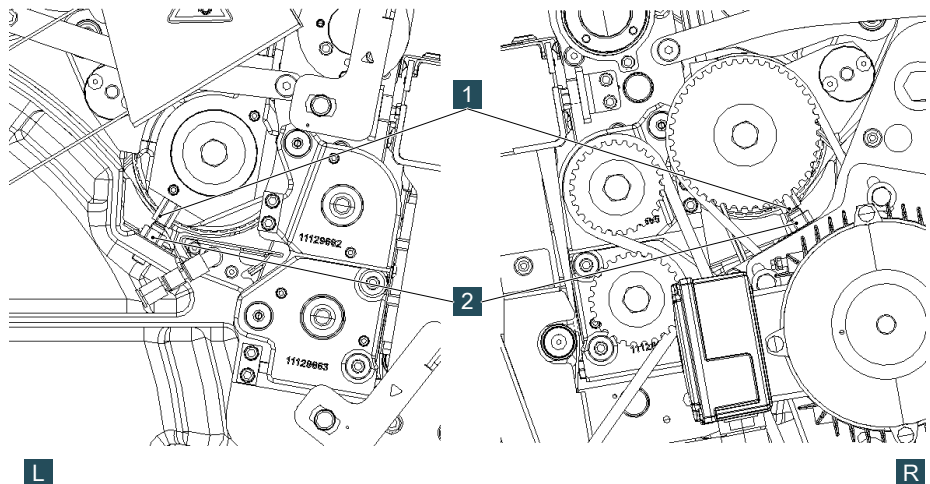


Figure 314: Adjustment of take-off roller

L Left side of the machine

R Right side of the machine

4. Make sure the doffer belt is tensioned.

5. **WARNING! Turning doffer! Injury to the hands because of the turning doffer.** Remove the top cover of doffer **3**.

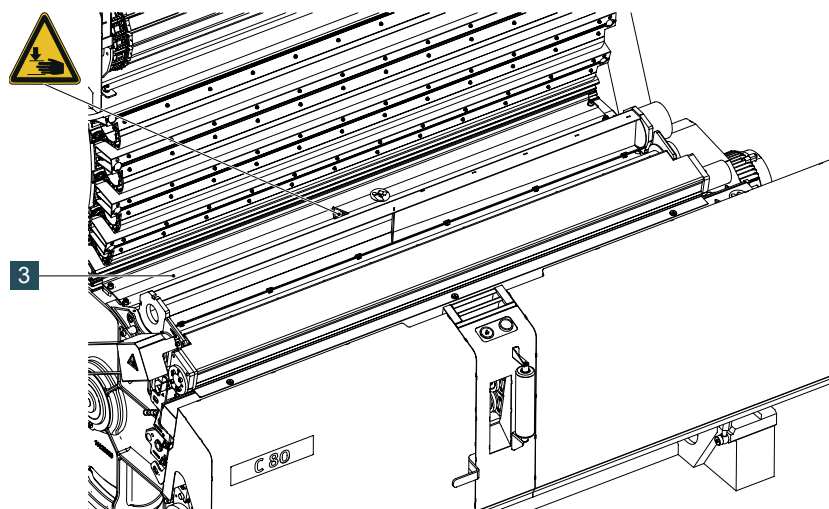
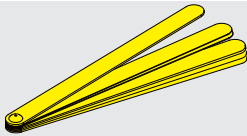


Figure 315: Top cover of doffer

6. Examine the distance between the take-off roller and doffer over full width.

Result The distance between the take-off roller and doffer (D05) is adjusted.

7.11.8.9 Adjusting the Distance between the Web Bridge and the Take-off Roller (D06)

Tools	Tool	Tool Name	Function Description
		Card gauge	The card gauge is used to measure the distance between the machine parts.
Measuring Point D06			
	Default value	2.60 mm	

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

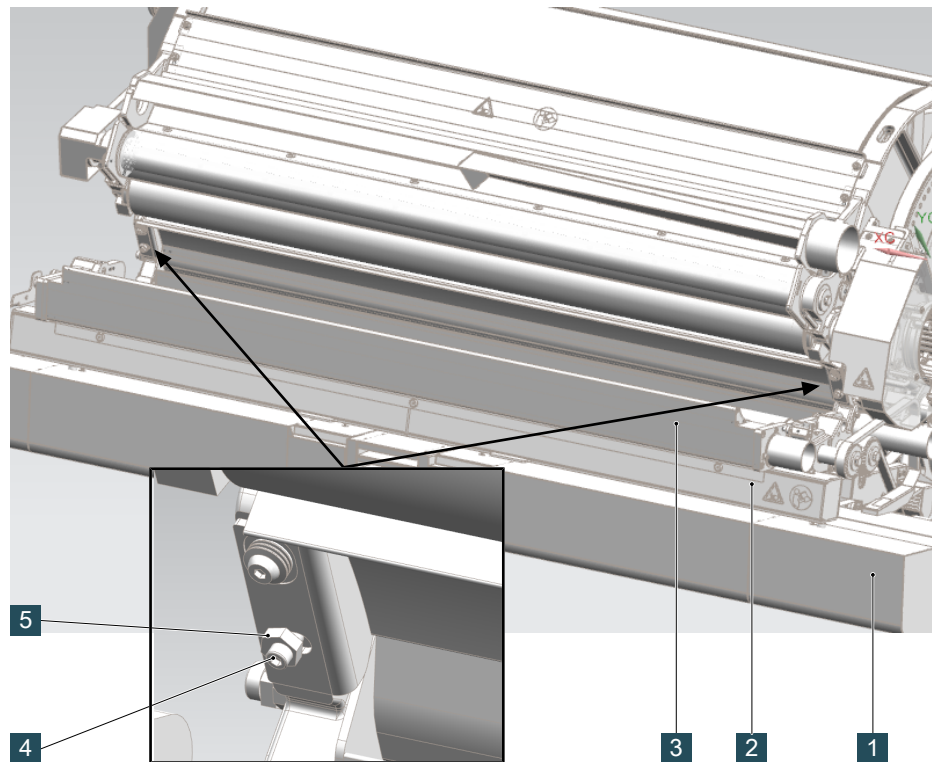
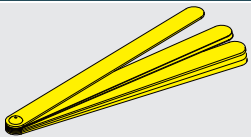


Figure 316: Adjustment of the web bridge

1. Swivel down the disk roller unit **1**.
2. Swivel down the cross apron unit **2**.
3. Swivel down the delivery roller unit **3** (refer to ► 343).
4. Loosen the screw **4** on 2 sides of the machine.
5. Turn the eccentric nut **5** to adjust the distance between the web bridge and take-off roller refer to the setting sheet.
⇒ The default value of the distance is 2.60 mm.
6. Tighten the screw **4** on 2 sides of the machine.
7. Measure the distance between the web bridge and take-off roller over the full width.

Result The distance between the web bridge to take-off roller (D06) is adjusted.

7.11.8.10 Adjusting the Distance between the Clear Roller and the Take-off Roller (D09)

Tools	Tool	Tool Name	Function Description
		Card gauge	The card gauge is used to measure the distance between the machine parts.

Measuring point D09

Default value	0.10 mm
---------------	---------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- 1. Open the top cover **1** of the delivery unit.

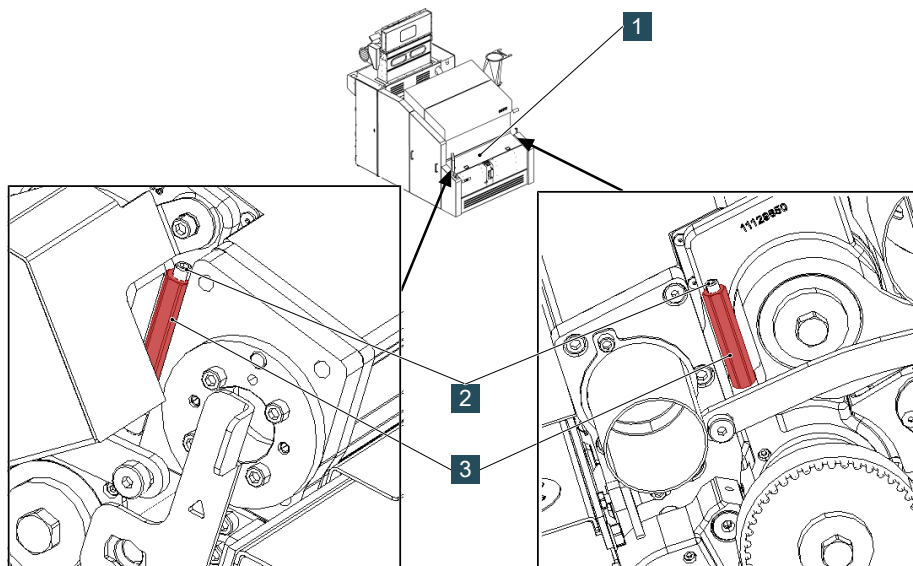


Figure 317: Adjustment of the clear roller

- 2. Swivel down the delivery roller unit (refer to ► 343).
- 3. Loose the nuts **3**.
- 4. Turn the screw **2** to adjust the distance between the clear roller and the take-off roller refer to the setting sheet.
⇒ The default value is 0.10 mm.
- 5. At the front side, put the card gauge between the take-off roller and the clearer roller.
- 6. Measure the distance between the take-off roller and the clear roller with full width.

Result The distance between take-off roller and the clear roller (D09) is adjusted.

7.11.8.11 Adjusting the Distance between the Take-off roller and the Delivery Roller (D10)

Measuring point D10

Default value	0.30 mm
---------------	---------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Swivel down the disk rollers unit **2**.

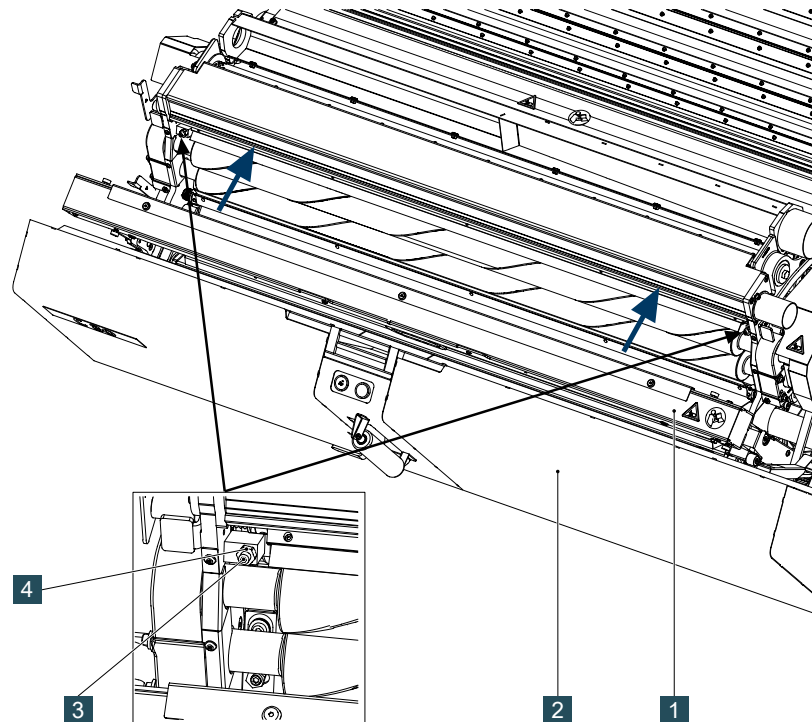


Figure 318: Adjustment of the delivery roller unit

2. Swivel down the cross apron unit **1**.
3. At the 2 sides of the machine, loosen the nut **4**.
4. At the 2 sides of the machine, turn the screw **3** to adjust the distance between the top delivery roller and the take-off roller.
⇒ The distance at the measuring point D10 is adjusted.
5. On 2 sides of the delivery roller, push the delivery roller unit towards to the take-off roller to make sure that the screws **3** touch the surface of the take-off roller bearing.
6. To get an accurate value, push the delivery rollers unit to take-off roller tightly during measuring the distance between the top delivery roller and the take-off roller.

Result The distance between the top delivery roller and the take-off roller (D10) is adjusted.

7.11.8.12 Adjusting the Distance between the Delivery Rollers (D11)

Measuring point D11

Default value	0.30 mm
---------------	---------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Swivel down the disk rollers unit **3**.

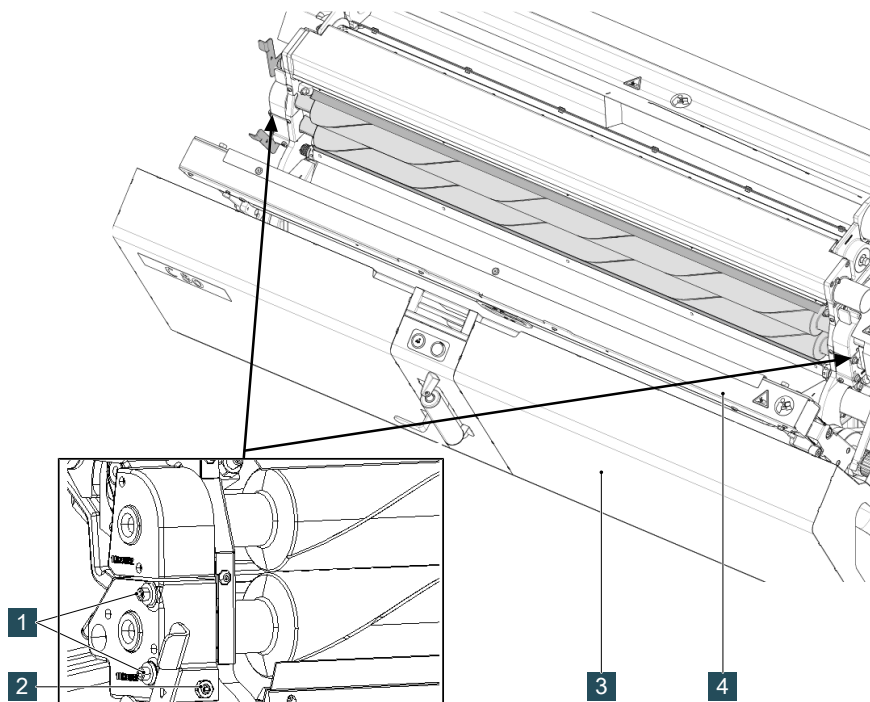


Figure 319: Adjustment of the bottom delivery roller

2. Swivel down the cross apron unit **4**.
3. At the 2 sides of the machine, loosen the screws **1**.
4. At the 2 sides of the machine, turn the screw **2** to adjust the distance between the top delivery roller and the bottom delivery roller refer to the setting sheet.
⇒ The distance at the measuring point D11 is adjusted.
5. Measure the distance for the measure point D11 for the full length of the roller.
6. At 2 sides of the machine, tighten the screws **1**.

Result The distance between the top delivery roller and the take-off roller (D11) is adjusted.

7.11.8.13 Adjusting the Distance between the Delivery Rollers and the Cross Apron (D12)

As it is not easy to measure the distance between the delivery rollers and cross apron, so actually the distance at the measuring point D12 is between the delivery rollers and the deflection pulleys of the cross apron.

Measuring point D12	
Default value	6 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- 1. Remove the cross apron belt.
- 2. Loosen the screws **2** on 2 sides of the machine.

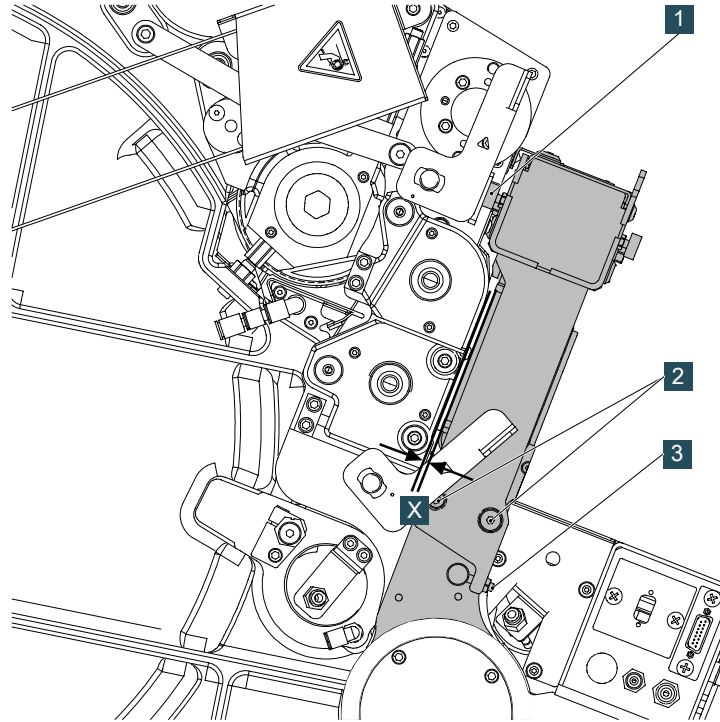


Figure 320: Adjustment of the cross apron unit

- 3. At 2 sides of the machine, turn the screws **1** and **3** to adjust the distance **X** between the delivery rollers and the deflection pulleys refer to the setting sheet.
⇒ The default value is 6 mm.
- 4. Tighten the screws **2** on 2 sides of the machine.

Result The distance between the delivery rollers and the deflection pulleys (D12) is adjusted.

7.11.8.14 Adjusting the Disc Rollers (D15)

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- 1. Measure the distance **1** between the disc rollers.

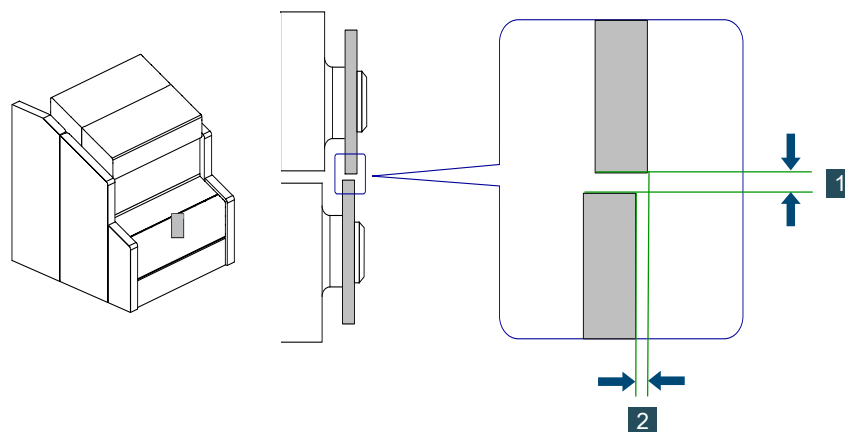


Figure 321: Adjusting the disc rollers

2. If the distance **1** is $< 0.10 \text{ mm}$ or $> 0.15 \text{ mm}$, adjust the distance between the disc rollers.
3. Measure the distance **2**.
4. If the distance **2** is $> 0.05 \text{ mm}$, align the disc rollers.

Adjusting the Distance between the Disc Rollers (D15)

Measuring point D15

Default valve	0.10 mm
---------------	---------

1. Swivel down the disc roller unit.
2. Remove the funnel box **5**.

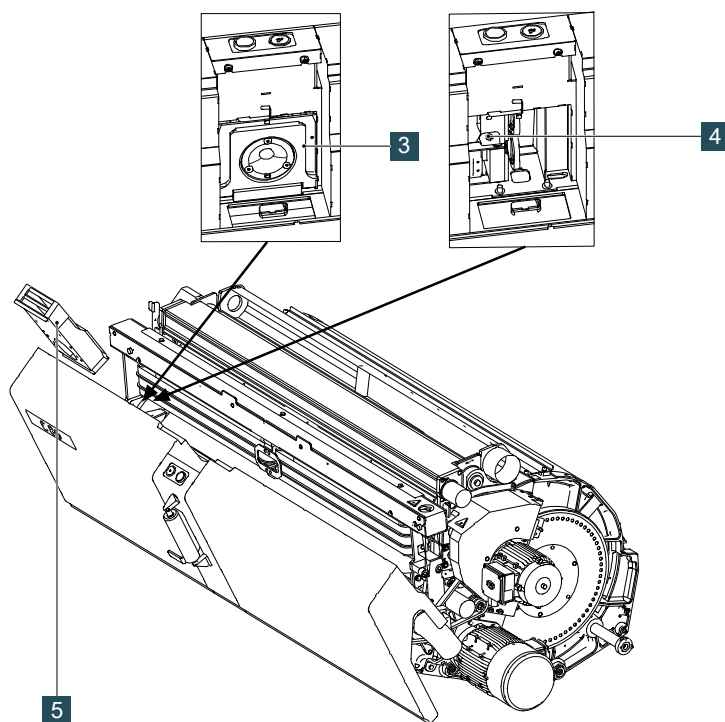


Figure 322: Adjustment of the distance between the disc rollers

3. Swivel down the funnel plate **3**.
4. Turn the screw **4** to adjust the distance between the disc rollers refer to the setting sheet.
⇒ The default value is 0.10 mm.
5. Make sure that the contact surface of the disc rollers do not make contact when the card sliver is not there.
6. Move the lever up and down for some time.
7. Measure the distance between the disc rollers again.
8. If necessary, adjust the distance between the disc rollers again.
⇒ The distance between the disc rollers (D15) is adjusted.

Aligning the Disc Rollers

1. Align one of the 2 disc rollers **7** and **9**.

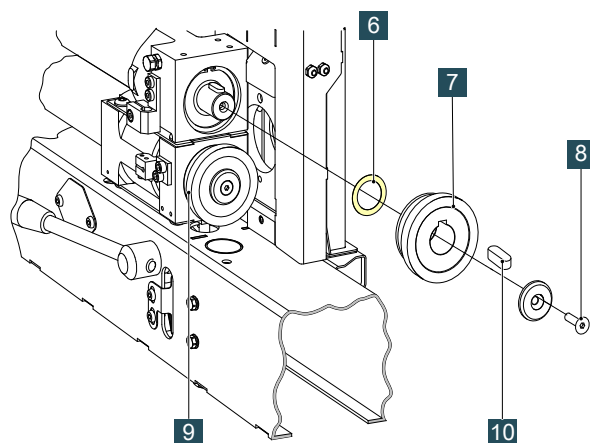


Figure 323: Location of the disc rollers

2. Remove the screw **8** and flat key **10**.
3. Remove the selected disc roller for correction.
4. To adjust the distance **2**, remove or install the spacer disc **6**.
5. Install the disc roller.
6. Tighten the screw **8**.
7. Measure the distance **2** again.
8. If necessary, adjust the distance **2** again.
 - ⇒ The disc rollers are aligned.

Result The disc rollers are adjusted.

7.11.8.15 Adjust the Funnel to the Center Position

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. Do a visual inspection for the position of the funnel **2**.

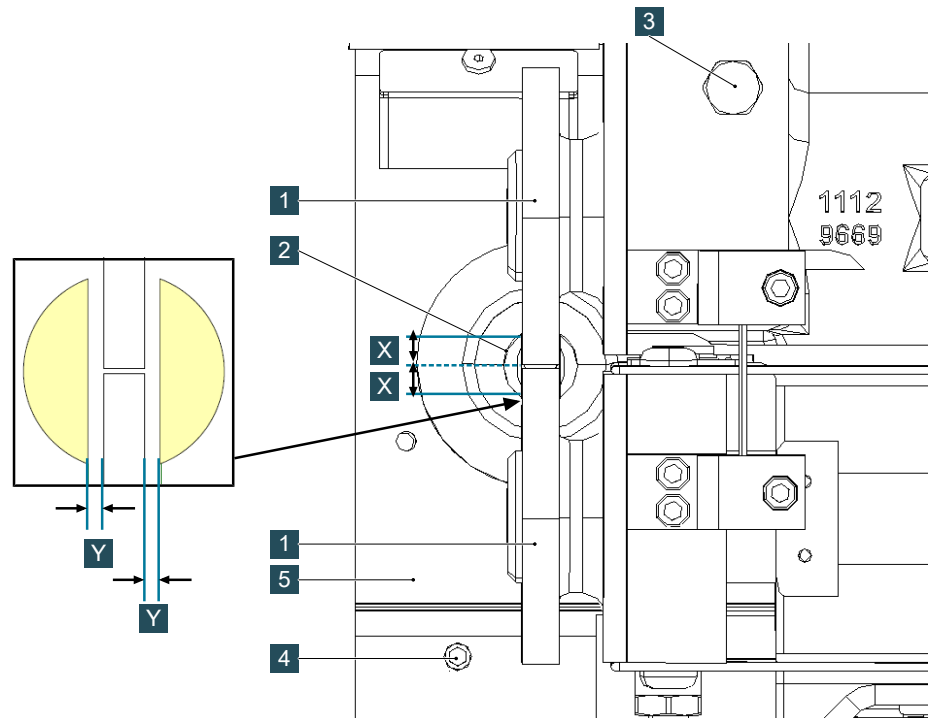


Figure 324: Center position of the funnel

2. If the funnel is not at the center position between disk rollers **1**, turn the screw **3** until the funnel **2** is at the center position between the disk rollers **1**.
⇒ The distance **X** on both sides are same.
3. Loosen the screw **4** slightly.
4. Slide the funnel plate **5** to left or right side until the distance **Y** on both sides are same.
⇒ The distance **Y** on both sides are same.
5. Tighten the screw **4**.

Result The funnel is at the center position.

7.11.8.16 Adjusting the Pressure between the Disk Rollers

The width of the disk rollers gives the default spring pressure.

Spring Pressure Refer to the Width of the Disk Roller

Width of disk roller: 9.0 mm	600 N
Width of disk roller: 15.0 mm	1 150 N

1. Loosen the screws **3** to adjust the position of the setting gauge **1**.

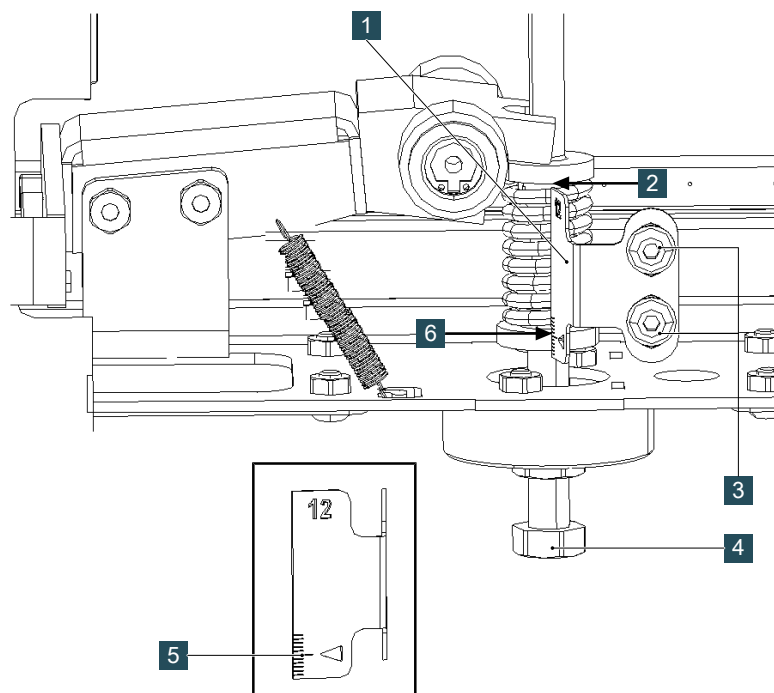


Figure 325: Adjustment of the pressure of the disk roller

2. Make sure that the top edge of the setting gauge **3** is align to the bottom edge of the pressing pin **2**.
3. Tighten the screws **3**.
4. Adjust the spring with the screw **4** until the top edge of the ring **6** is aligned to the default value mark **5**.

Result The spring pressure is set to the default value.

7.11.8.17 Calibrating the Distance Measurement Device

Calibration value with 0.8 mm between disk rollers	1 288 - 1328
Calibration value with 1.6 mm between disk rollers	2 500 - 2750
Calibration value without card gauge between disk rollers	200 - 400

Prerequisites Make sure that the criteria are obeyed:

- ✓ The disk rollers are adjusted.
- ✓ The plunger in the plunger coil is adjusted.

1. Select the data screen 4.2.2 **Test of Analog Inputs** .

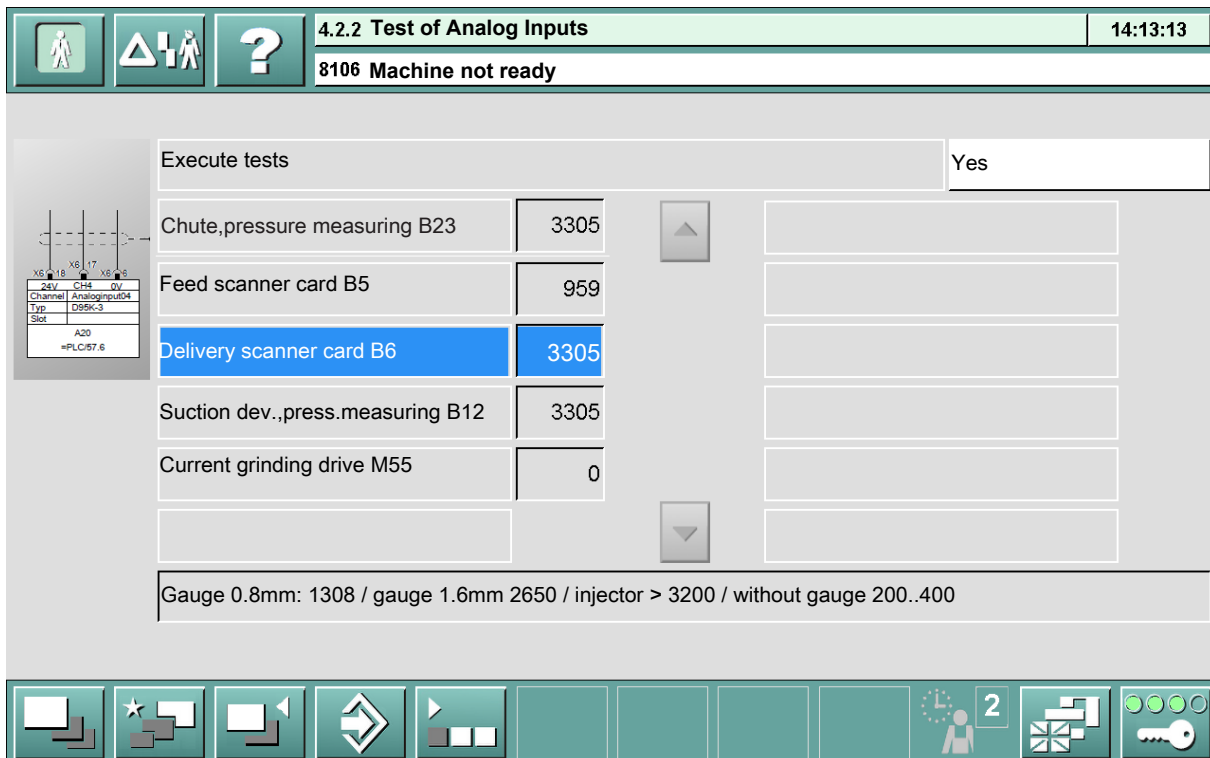


Figure 326: Data screen 4.2.2 Test analog inputs

- Read the value in the field **Delivery scanner card B6**.
- Loosen the screw **3**.

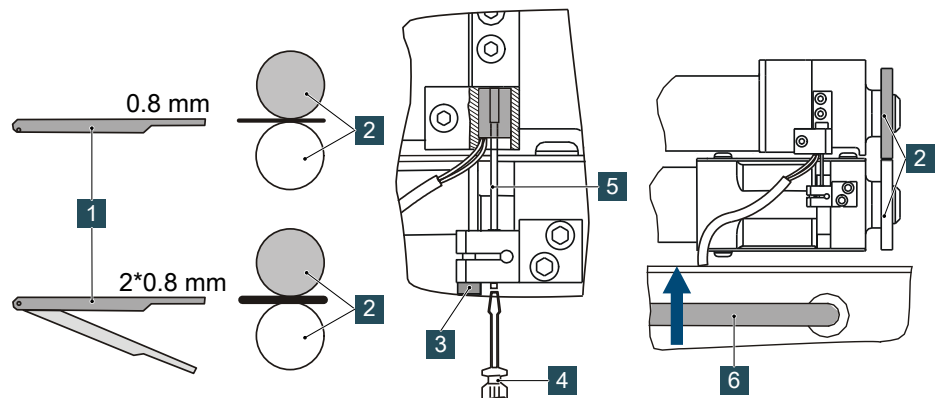


Figure 327: Calibrating the measuring device

- Pull up the lever **6**.
- Put the test gauge (0.8 mm) **1** between the disk rollers **2**.
- Adjust the measuring device with the screwdriver **4** on the adjustment spindle **5**.
 - ⇒ The value in the field **Delivery scanner card B6** is in the range from 1288 to 1328.

7. Put the test gauge (1.6 mm) **1** between the disk rollers **2**.
- ⇒ The value in the field **Delivery scanner card B6** is in the range from 2500 to 2750.
 - ⇒ If the value in the field **Delivery scanner card B6** is not in the range from 2500 to 2750, do the step 5 and 6 again.
8. If the 2 calibration dimensions are correct, tighten the screw **3** with tightening torque of 2 Nm.
9. Remove the test gauge **1**.
- ⇒ The distance between the disk rollers is the minimum distance.
 - ⇒ The value in the field **Delivery scanner card B6** is in the range from 200 to 400.

Result The distance measurement device is calibrated.

7.11.8.18 Adjusting the Blowing Device for the Card Sliver

The blowing-in device is started by the Lever. Starting at the specified position, compressed air is blown into the area of the 2 disk rollers. For all sliver weights this blowing in must not be started during the usual production.

Displayed value on the data screen	≥ 3 200
Default value	3 200

- Prerequisites** Make sure that the criteria are obeyed:
- ✓ The distance between the disk rollers is set.
 - ✓ The pressure between the disk rollers is set.

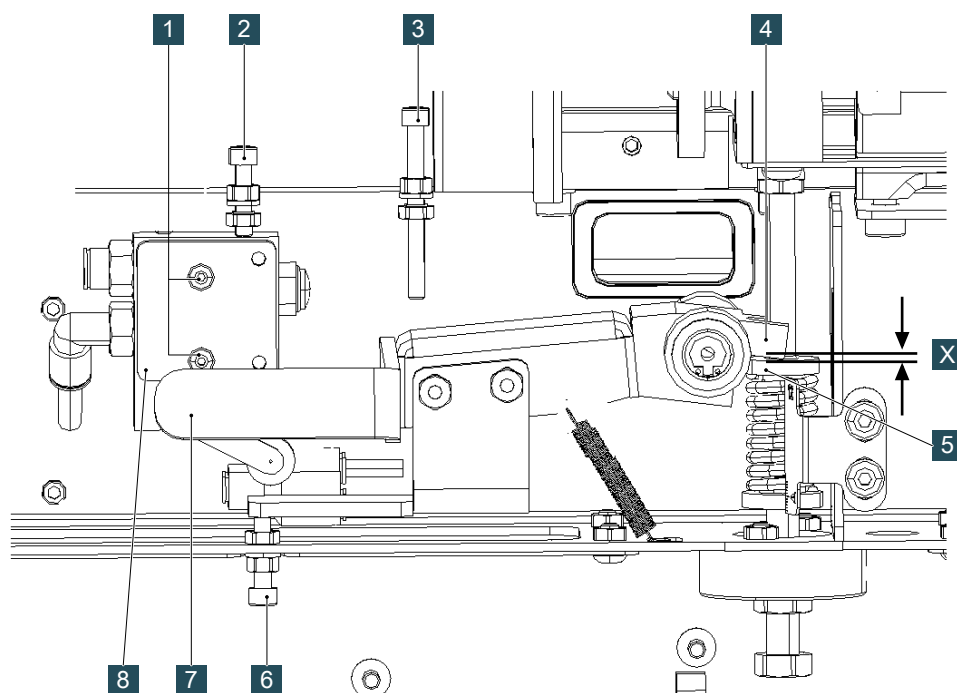


Figure 328: Adjustment of the blowing device

1. Turn the screw **6** to set the clearance between the cam **4** and the ring **5**.
 ⇒ The clearance **X** between the cam **4** and ring **5** to 0.20 – 0.40 mm.

Examining the Point at the Compressed Air

1. Select the data screen 4.2.2 Test of Analog Inputs.

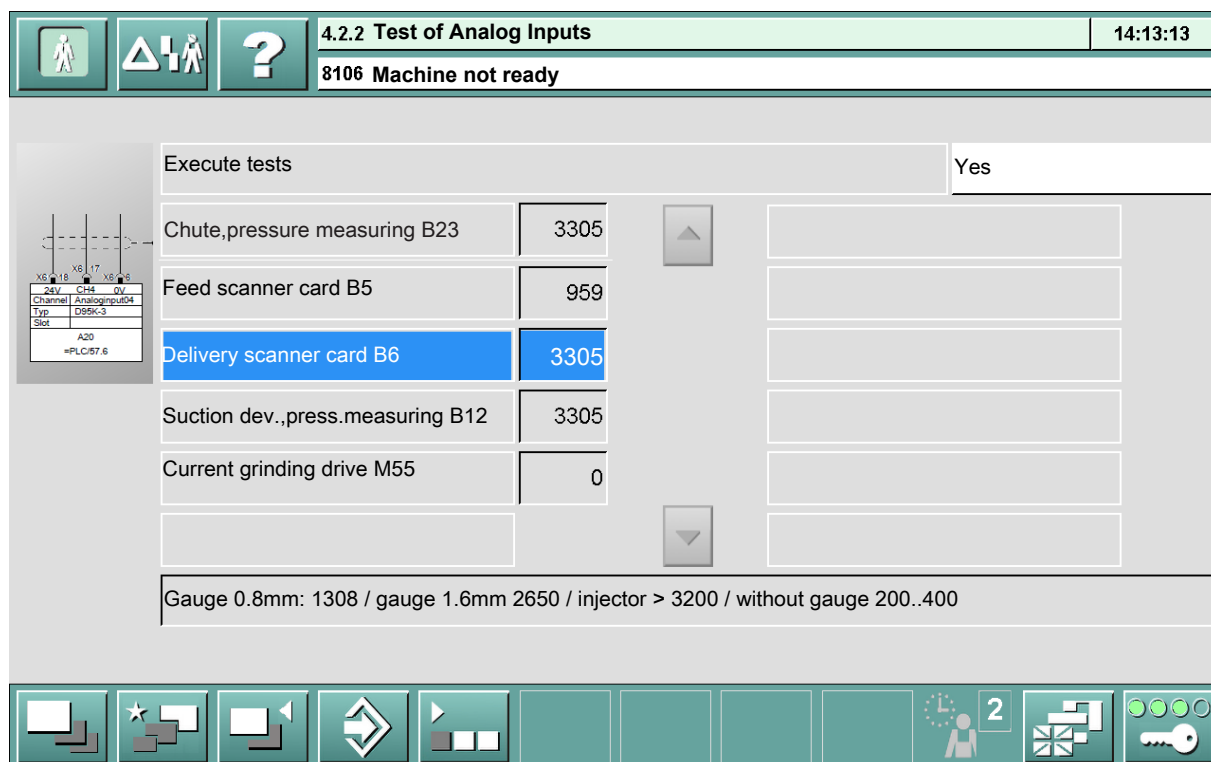


Figure 329: Data screen 4.2.2 Test analog inputs

- Pull the lever **7** up slowly.
- Make sure that the compressed air does not blow until the value in the field **Delivery scanner card B6** is shown as below table.
- If the compressed air starts to blow when the value in the field **Delivery scanner card B6** does not reach the necessary value, correct the setting of the blowing device refer to below procedure.

Correcting the Setting of the Blowing Device

- Remove the cover in the area of the disk rollers.
- Loosen the bolt **2**.
- Loosen the screws **1**.
- Move up the valve **8**.
- Do the check again.
- If the adjustment is correct, tighten the bolt **2** until the bolt **2** lightly touches the valve **8**.
- Adjust the bolt **3** to make sure that the lever **7** is stopped just before the valve **8** reaches the end position.

Result The blowing device for the card sliver is adjusted.

7.11.9 Setting the Sliver Coiling Device CBA

This section contains the information about how to set the sliver coiling device CBA. To set the coiler, a can must be half-filled.

7.11.9.1 Adjusting the Light Sensors

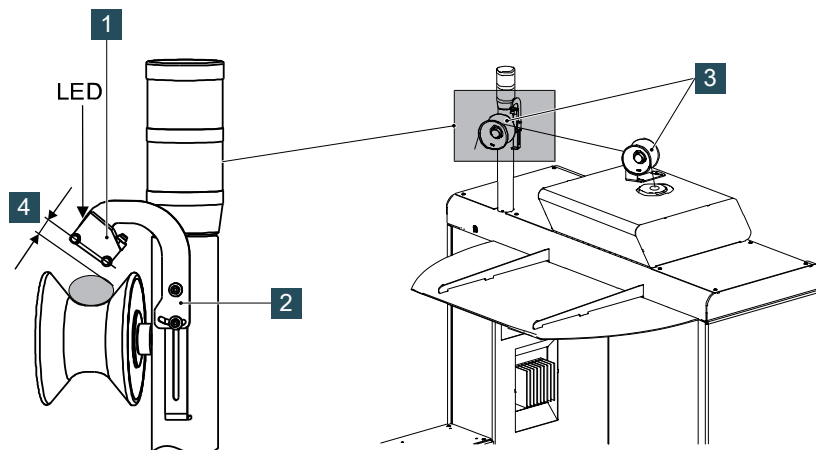


Figure 330: Light sensor (Option: CBA-5)

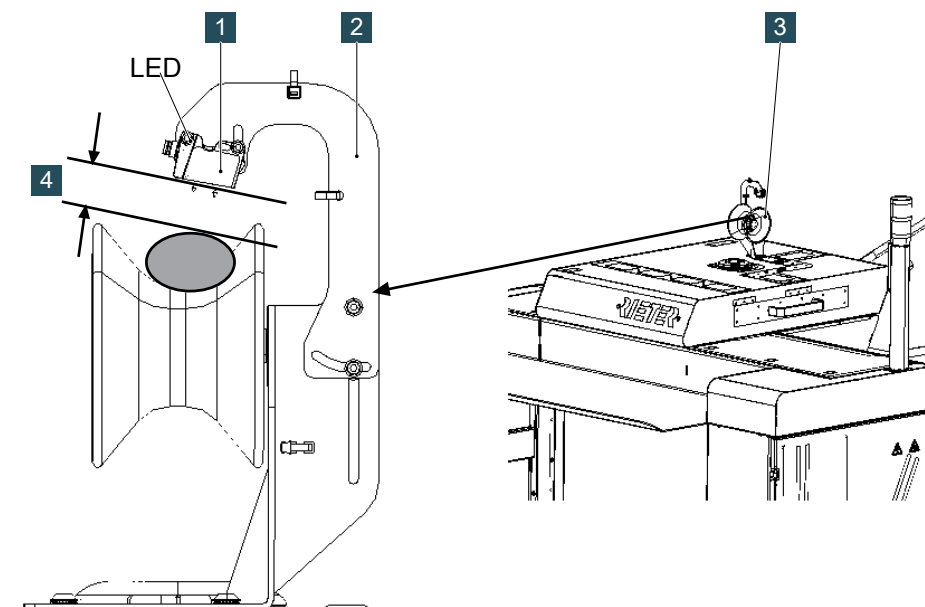


Figure 331: Light sensor (Option: CBA 1200)

1. Align the rollers **3** with the sliver funnel.
⇒ The card slivers are put correctly into the sliver funnel.
2. Examine the position of the light sensor **1** in relation to the card sliver.
3. Set the distance **4** with the holder **2**.

4. Make sure that the distance **4** between the light sensor **1** and the sliver is 15 mm.
5. Examine the LED indications.
 - ⇒ The LED is on when the card sliver goes through the light sensor.
 - ⇒ The LED flashes if the card sliver does not move.
 - ⇒ The LED is off if no card sliver is available or the light sensor is set incorrectly.

Result The light sensors are adjusted.

7.11.9.2 Adjusting the Sliver Tension (CBA-5)



NOTICE

Incorrect belt tension!

Material damage

► Apply the correct belt tension to the belt with the tensioning device.

1. Remove the cover.
2. Loosen the screws **1**.

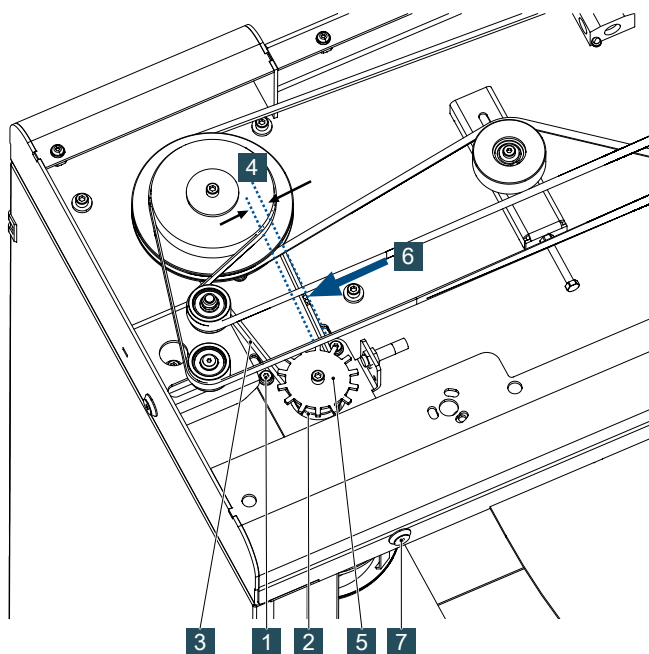


Figure 332: Adjustment of the sliver tension

3. Loosen the belt **3** with the tensioning device **7**.
4. Remove the disk **5**.
5. Replace the pulley **2**.

6. Tighten the belt **3** with the tensioning device **7**.
7. Push the belt **3** at the point **6** with the load of 10 N.
⇒ If the movement distance **4** is 2.7 mm, the tension of the belt **3** is correct.

Result The sliver tension is adjusted.

7.11.9.3 Applying Tension to the V-Belt of the Coiler Drive(CBA-5)



NOTICE

Incorrect belt tension!

Material damage

► Apply the correct tension on the belts.

Load F and Movement S

Load F on V-belt	10 N = 1.0 kg
Movement S of V-belt	2.0 mm

1. Loosen the screw **2**.

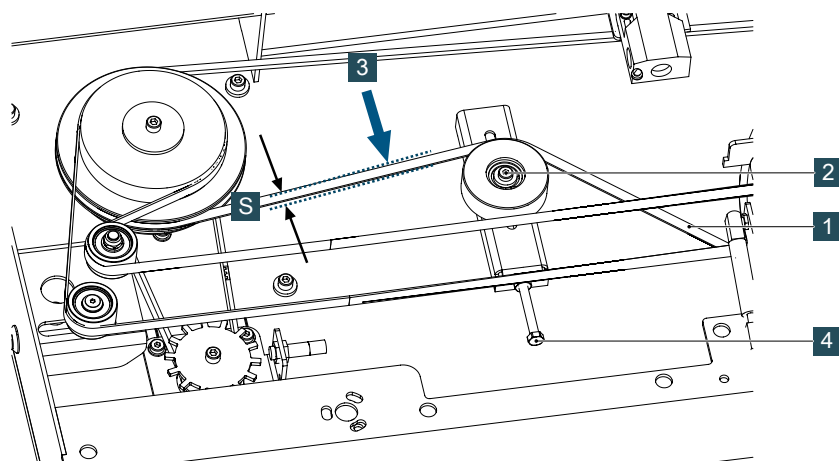


Figure 333: Adjustment of V-belt

2. Tighten the belt **1**, with the tensioning device **4**.
3. Push the belt **1** at point **3** with the load of 10 N.
⇒ If the movement of the belt is 2.0 mm, the tension of the belt **1** is correct.

Result The belt of the coiler drive is tightened.

7.11.9.4 Adjusting the V-Belt Tension of Coiler Drive (CBA 1200)

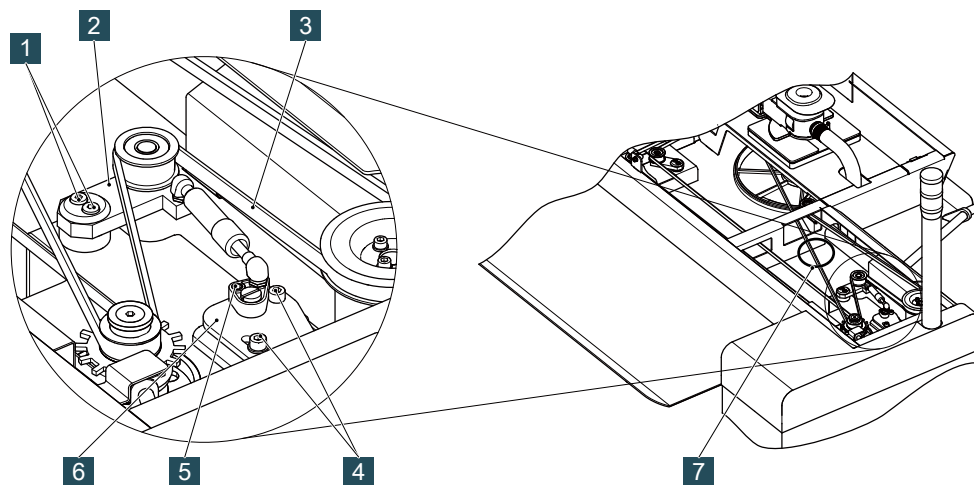


Figure 334: Belt of the coiler drive

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



NOTICE

Incorrect belt tension!

Material damage

- Apply the correct belt tension to the belt with the tensioning device.

1. Loosen the screws **1** and screws **4**.
2. Use a hexagonal key to turn the eccentric **5**.
⇒ The lever **2** is turned to the default position to release the tension.
3. Install the belt **3**.
4. Move the belt tensioner **6** until the belt **3** is slightly tightened.
5. Tighten the screws **4**.
6. Use a hexagonal key to turn the eccentric **5**.
⇒ The lever **2** is turned to the work position.
7. Tighten the screws **1**.
8. Measure the belt tension with frequency meter at the position **7**.
⇒ If the value is in the range of 25 – 30 Hz, the adjustment is correct.

Result The belt tension is adjusted.

7.11.9.5 Applying Tension to the Calender Roller Belt (CBA-5)

If there is not sufficient tension, the belt operates off the guide rolls.

**NOTICE****Incorrect belt tension!**

Material damage

► Apply the correct tension on the belts.

Dimension with Belt Taut.

Dimension 6 with belt taut. (Measured distance between markings.)	200 mm + 1.6 % tension = 203.20 mm
--	------------------------------------

- Put 2 marks **3** and **4** on the belt **5** when the belt is loose.

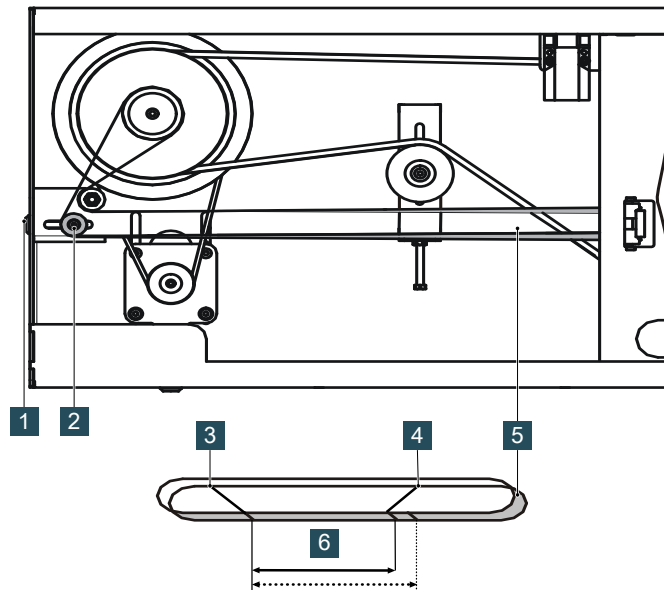


Figure 335: Tension on the belt of the calender rollers

- Make sure that the distance **6** between the 2 marks is 200 mm.
- Loosen the screws **2**.
- Install the belt **5**.
- Tighten the belt **5** with the tensioning device **1**.
- Make sure that the distance **6** with belt **5** tension is 203.2 mm.
- Make sure that there is sufficient tension between belt **5** to operate guide rolls.

Result The tension to the calender roller belt is applied.

7.11.9.6 Applying Tension to the Calender Roller Belt (CBA 1200)

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

- Loosen the screw **2**.

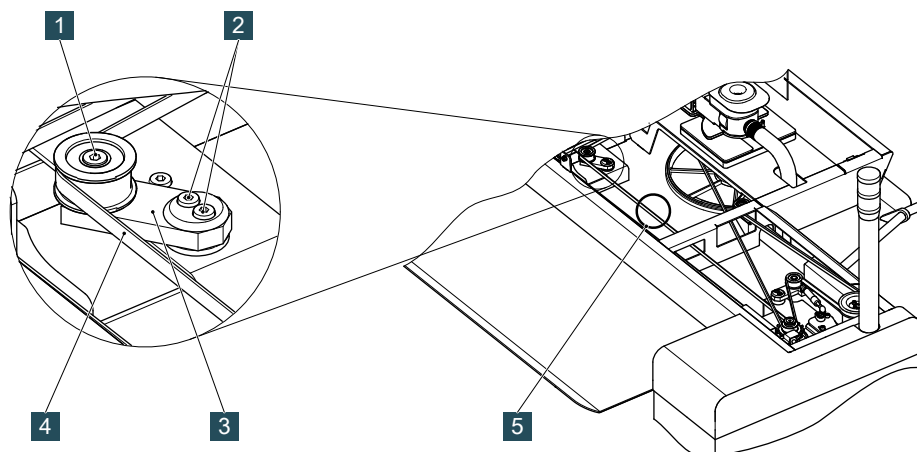


Figure 336: Calender roller belt

⇒ The lever **3** is turned to the default position.

2. Install the belt **4**.

3. Put a hexagonal key into the screw **1**.

⇒ The lever **3** is turned to the work position.

4. Tighten the screws **2**.

5. Measure the belt tension with the frequency meter at the position **5**.

⇒ If the value is in the range of 30 – 35 Hz, the adjustment is correct.

Result The tension of the calender roller belt is applied.

7.11.9.7 Adjusting the Draft between Card to Coiler (CBA 1200)

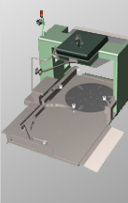
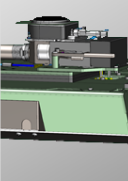
2.3.2.1 Coiler Settings I		11:32:36	
8118 Delivery normal			
	Warning Empty can	5000	m
	Deliv. speed during can change Card	150	m/min
	Draft between card and coiler	1.05 ... 1.05	
	Can change sliver channel blow-in time	1 min	0 s
	Sliver separation delay time	2.5 s	60 °
	Max. time for funnel to top pos.	2.0	s
	Length of sliver separation	0.01 s	25 mm
	Man. can change, decrease speed	On	

Figure 337: 2.3.2.1 Coiler Settings I

- Select the data screen 2.3.2.1.
- Enter the value in the field 1 to change the draft in the low speed.
 - ⇒ The field **1** is for the draft in the low speed.
 - ⇒ The field **2** is for the draft in the full speed
- Keep the draft as low as possible.
 - ⇒ The card sliver should be stretched as much as possible, but enter the coiler without being drafted.

Result The draft between the card disc rollers to coiler is adjusted.

7.11.9.8 Setting the Time of the Sliver Cutting (CBA-5)

Distance 4 between the Magnetic Switch and Cylinder

750 mm can diameter.	152 mm
OR 800 mm can diameter.	
OR 1000 mm can diameter.	
600 mm can diameter.	157 mm

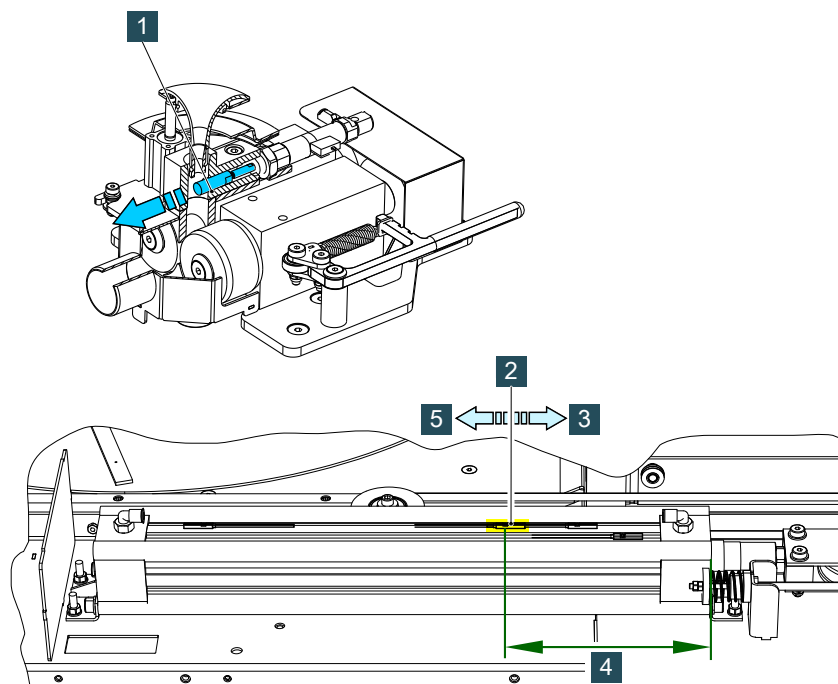


Figure 338: Cylinder of the can change

1. Examine the basic adjustment **4** of magnetic switch **2** on the cylinder of the can changer.
 - ⇒ The clamping bolt **1** disconnects the carded sliver.
 - ⇒ The magnetic switch **2** causes the sliver cut operation.
2. Monitor the procedure of the can change.
3. Make sure that the coiler is in the opposite direction of the discharge point of the sliver, during the sliver cutting operation.
4. If the sliver cutting starts before the correct time, move the magnetic switch **2** some millimeters in the direction **3**.
5. If the sliver cutting starts after the correct time, move the magnetic switch **2** some millimeters in the direction **5**.

Result The time for the sliver cutting is set.

7.11.9.9 Setting the Time of the Sliver Cutting (CBA 1200)

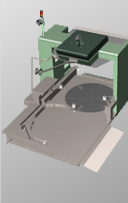
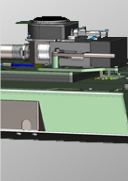
2.3.2.1 Coiler Settings I		11:32:36	
8118 Delivery normal			
	Warning Empty can	5000	m
	Deliv. speed during can change Card	150	m/min
	Draft between card and coiler	1.05	...
	Can change sliver channel blow-in time	1 min	0 s
	Sliver separation delay time	2.5 s	60 °
	Max. time for funnel to top pos.	2.0	s
	Length of sliver separation	0.01 s	25 mm
	Man. can change, decrease speed	On	

Figure 339: 2.3.2.1_Coiler_Settings_I

1. Enter the password in the level 1.
2. Select the data screen 2.3.2.1 **Coiler Settings I**.
3. Enter the time in the filed **1** to set the time delay to start the sliver cutting process.
4. Monitor the procedure of the can change.
5. If the sliver cutting starts too early, increase the time.
6. If the sliver cutting starts too late, decrease the time.

Result The time for sliver cutting is set.

7.11.9.10 Adjusting the Sliver Funnel

Before the sliver cutting, the sliver funnel is lifted so that the sliver is not cut directly at the sliver funnel. The purpose is that the fiber fringe should come out of the sliver funnel. The fiber fringe makes sure that, after the sliver cutting operation, when the sliver funnel is lowered again, the sliver is pulled back in by the calender rollers.

Adjusting the Lifting Speed of the Sliver Funnel

The lifting speed must be adapted to the friction between the sliver and the sliver funnel. The higher the friction, the lower the lifting speed. The lifting speed must be set correctly to prevent the sliver breakage.

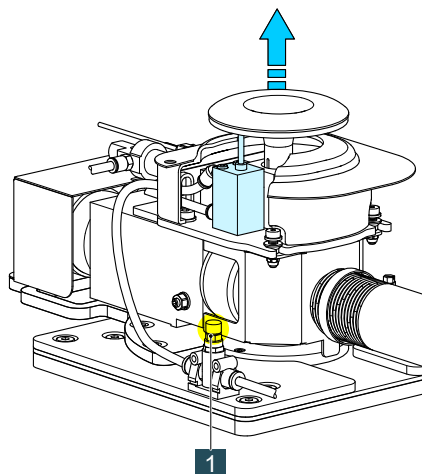


Figure 340: Sliver funnel lift

1. Monitor the lifting speed of the sliver funnel.
2. Measure the time the sliver funnel takes to reach the top position.
 - ⇒ If the time is in the range of 0.5 – 1.5 seconds, the lifting speed is correct.
3. If the time is less than 0.5 seconds, turn the throttle **1** counterclockwise.
4. If the time is more than 1.5 seconds, turn the throttle **1** clockwise.
 - ⇒ The lifting speed of the sliver funnel is adjusted.

Setting the Delay Time for the Sliver Cutting

The delay time gives the time that is necessary for the sliver funnel to move to the top position before the sliver cutting operation starts.

Length of sliver sep.

Time of bolt extended	0 – 0.5 s
Guide value	0 s

Distance 3

Standard setting	16.0 mm
For a heavier sliver	Increase the distance 3 .
For a lighter sliver	Decrease the distance 3 .

1. Measure the time the sliver funnel needs to reach the top position.
2. Add 0.5 seconds into the measured time.
 - ⇒ The delay time for setting is got.

3. Enter the password of the authorization level 1.
4. Select the data screen 2.3.2.1 **Coiler Settings I**

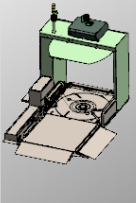
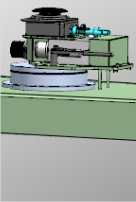
2.3.2.1 Coiler Settings I		7:59:16	
8118 Delivery normal			
	Empty can warning	5000	m
	Deliv. can change, card	150	m/min
	Draft card to coiler	1.05	...
	Can change sliver channel blow-in time	1 min	0 s
	Max. time, funnel to top	2.0	s
	Length of sliver separation	0.01 s	25 mm
	Man. can change, lower speed	On	

Figure 341: Data screen 2.3.2.1 Settings coiler I

5. Enter the delay time in the field **Max. time, funnel to top**.
⇒ The delay time for the sliver funnel is set.
6. To set the clamping time in the field **Length of sliver separation**, refer to the table above.
⇒ The clamping time is set.

Selecting the Sliver Funnel Diameter

1. Examine the procedure of the sliver cutting.
2. If the sliver is already cut when the sliver funnel is lifted, change the sliver funnel to a larger sliver funnel.
3. If the sliver is not pulled back by the calender rollers when the sliver funnel is lowered, change the sliver funnel to a smaller funnel.

Adjusting the Position of the Magnetic Switch on the Sliver Weight

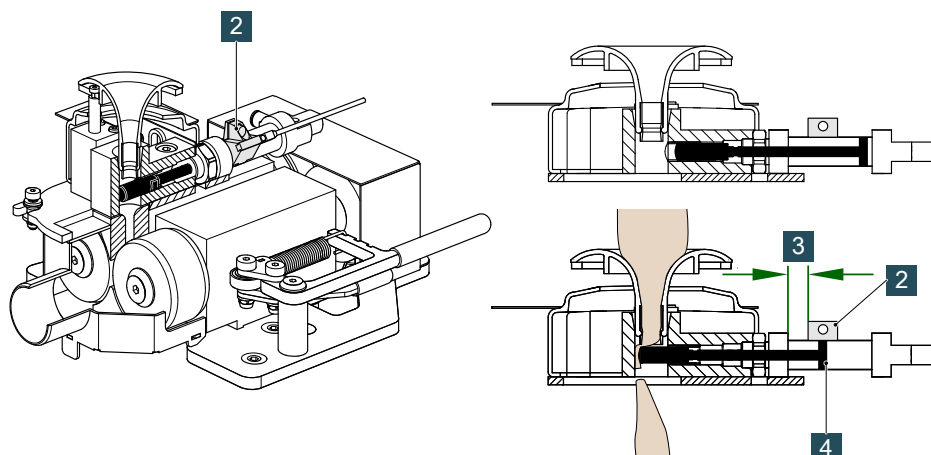


Figure 342: Magnetic switch position

- To adjust the magnetic switch B13 **2**, refer to the table above.
 ⇒ The magnetic switch B13 **2** can sense the position of the extended piston rod **4**.

Result The sliver funnel is adjusted.

7.11.9.11 Adjusting the Air Injector of the Sliver Coiling Device

2.3.2.1 Coiler Settings I		11:32:36	
8118 Delivery normal			
Warning Empty can	5000	m	
Deliv. speed during can change Card	150	m/min	1
Draft between card and coiler	1.05	...	1.05 2
Can change sliver channel blow-in time	1 min	0 s	
Sliver separation delay time	2.5 s	60°	3
Max. time for funnel to top pos.	2.0	s	4
Length of sliver separation	0.01 s	25 mm	
Man. can change, decrease speed	On		

Figure 343: 2.3.2.1_Coiler_Settings_I

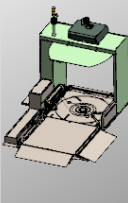
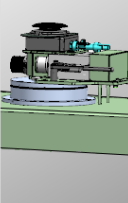
2.3.2.1 Coiler Settings I		7:59:16	
8118 Delivery normal			
	Empty can warning	5000	m
	Deliv. can change, card	150	m/min
	Draft card to coiler	1.05	...
	Can change sliver channel blow-in time	1	min
	Max. time, funnel to top	2.0	s
	Length of sliver separation	0.01	s
	Man. can change, lower speed	On	

Figure 344: Data screen 2.3.2.1 Settings coiler I

1. Enter the password of the authorization level 1.
2. Select the data screen 2.3.2.1 **Settings coiler I**.
3. Set the blow-in time in seconds, in the field **Blow-in time**.
4. Refer to the can cover position to set the blow-in time.
5. If the cover is near to the guide plate, set the blow-in time between 30 s and 60 s,.
6. If the cover is away from the guide plate, set the blow-in time more than or equal to 1 min.
7. At the time of the start, set the shortest time of 30 s,
8. Monitor the procedure of the can change.
 - ⇒ If the material fill touches the guide plate during the blow-in time, the blow-in time is set correctly.
9. If the material fill touches the guide plate after the blow-in time is passed, increase the blow-in time.

Result The air injector of the sliver coiling device is adjusted.

7.11.9.12 Adjusting the Calender Rollers



NOTICE

Incorrect adjustment of the minimum distance

Damage of the calender rollers

- Set the minimum distance between the calender rollers to 0.1 mm.

1. Measure the minimum distance **6** between the calender rollers **1**.

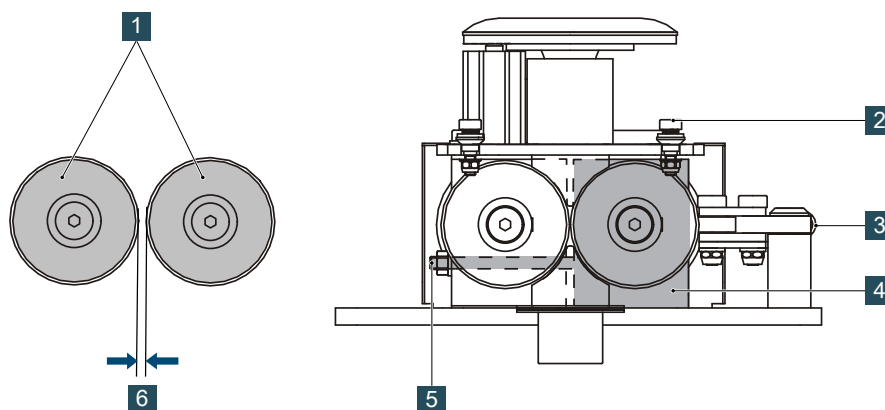


Figure 345: The calender rollers

2. Make sure that the damage of the calender rollers due to failure to obey with the minimum distance.
3. Set the minimum distance **6** to 0.1 mm with the adjusting screw **5**.
4. Release the load on the housing **4** with the lever **3**.
5. Measure the minimum distance **6** again between the calender rollers **1**.
6. Adjust the distance between the plate **8** and the housing **4** with the screw **7**.

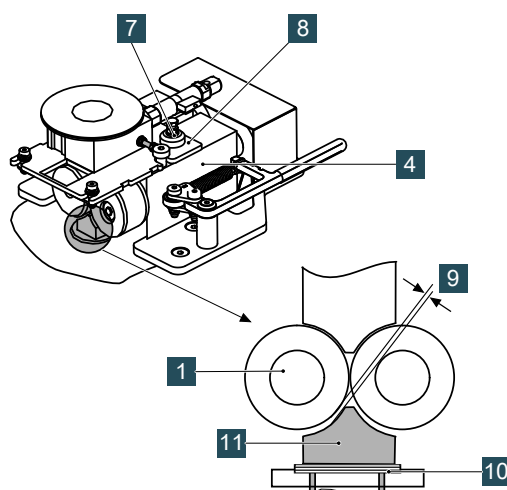


Figure 346: Adjustment of the calender rollers

7. Make sure that the housing **4** moves freely when opening and closing.
8. Adjust the distance **9** between the calender roller **1** and the delivery unit **11** with the shims **10**.
9. Make sure that the distance **9** is ≤ 1 mm.

Result The calender rollers are adjusted.

7.11.9.13 Adjusting the Distance between the Can Plate and the Cover Plate (CBA-5)

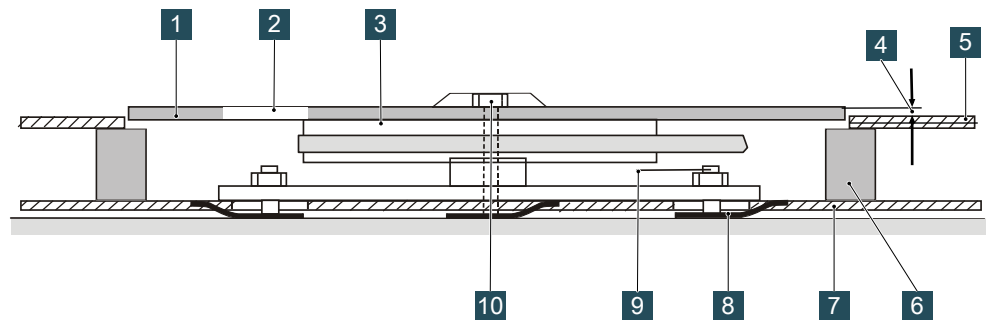


Figure 347: Can plate and the cover plate

Distance 4	2.0 – 3.0 mm
-------------------	--------------

Setting the Distance **4**

1. Remove the screws from the can plate **1**.
2. Turn the drive **3** to move the can plate **1**.
3. Adjust the distance **4** between the can plate **1** and the cover plate **5** to the range from 2 mm to 3 mm with the screws **9** through the opening **2**.
4. Notice that the shims **8** are fixed to the base plate **7** and must be pressed onto the floor with the screws **9**.
5. Do the adjustment at all 4 adjustment points.

Examining the Distance

1. Turn the can plate with hand.
2. Measure the distance **4** at different points.

Final Adjustment

1. When the distance **4** is set, make sure that the screw **10** is also attached to the floor.
2. Apply tension to the drive belt.
3. Apply tension to the V-belt of the can plate drive.

Plastic Supports

1. If the can plate load is too high (for example, the can is overfilled), use the plastic supports **6**.
2. Notice that the plastic supports are not adjustable.

Result The distance between the can plate and cover plate is adjusted.

7.11.9.14 Adjusting the Winding Distance (CBA-5)

The winding distance is referred for the selection of the pulley. Distance between windings affected by change gear.

Selecting the Pulley

1. To select the correct can diameter of the pulley, refer to the gearing layout. See Gearing Layout of the Sliver Coiling Device CBA

Removing the Pulley

1. Remove the screws **1**.

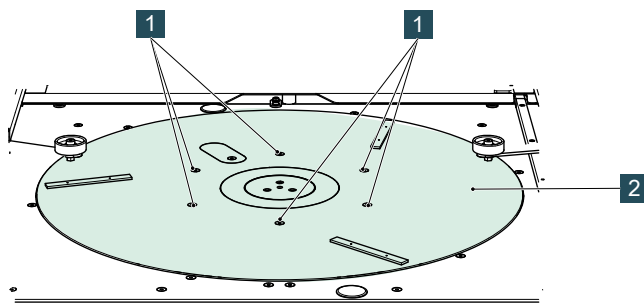


Figure 348: Cover and screws

2. Remove the cover **2**.
3. Remove the nut **3**.

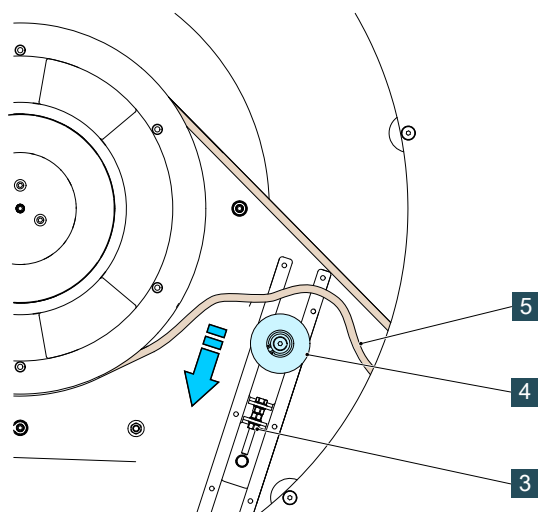


Figure 349: Location of the pulley

4. Move the tension roller **4** in the direction of the arrow.
⇒ The belt **5** is loosened.
5. Remove the screws **6**.

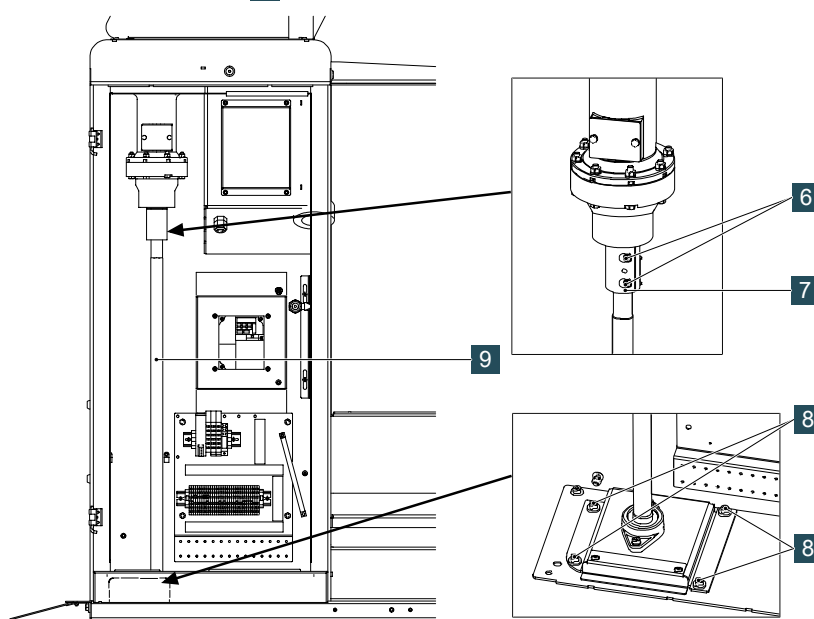


Figure 350: Removal of the pulley

6. Move down the coupling **7**.
7. Remove the screws **8**.
8. Remove the drive shaft **9**.
9. Remove the screw **11**.

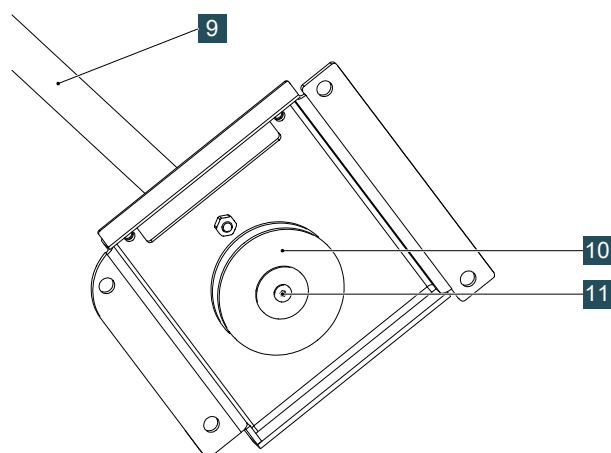


Figure 351: The pulley

10. Remove the pulley 10.
- ⇒ The pulley is removed.

Installing the Pulley

1. Install the new pulley **10**.
 2. Tighten the screw **11**.
 3. Install the drive shaft **9** with the coupling **7**.
 4. Move up the coupling **7**.
 5. Tighten the screws **6**.
 6. Tighten the screws **8**.
- ⇒ The pulley is installed.

Adjusting the Belt Tension

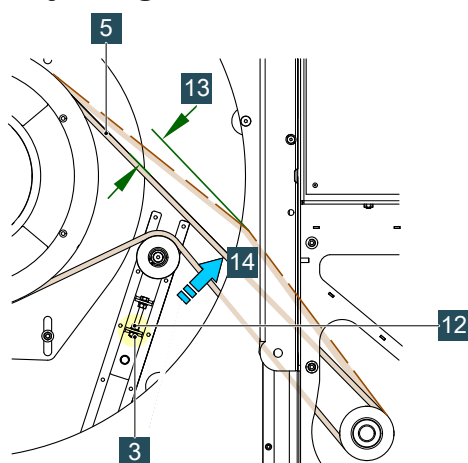


Figure 352: Adjustment of the belt

Movement

Can diameter 600 mm	12 mm
Can diameter 1 000 mm OR can diameter 800 mm OR can diameter 750 mm	20 mm

1. Install the belt **5**.
2. Tighten belt **5** with the nut **12**.
3. Apply force **14** of 50 N to the belt **5**.
4. Measure the movement **13** of the belt **5**.
5. If movement is too small, decrease the belt tension.
6. If movement is too large, increase the belt tension.
7. Tighten the nut **3**.
⇒ The belt tension is adjusted.

Result The winding distance is adjusted.

7.11.9.15 Adjusting the Winding Distance (CBA 1200)

Selecting the Pulley

1. To select the correct can diameter of the pulley, refer to the gearing layout.
See *Gearing Layout of the Sliver Coiling Device CBA* ▶ 248

Removing the Pulley

1. Remove the cover.
2. Loosen the screws 1 and 4.

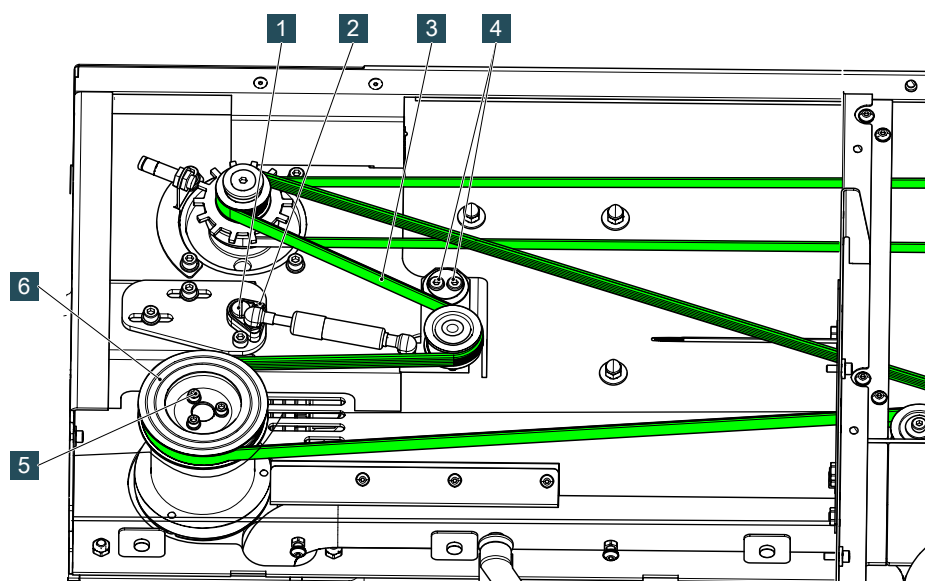


Figure 353: Replacement of pulley

3. Use a hexagonal key to turn the eccentric 2.

⇒ The tension is released.

4. Remove the screws 5.

5. Remove the pulley 6.

⇒ The pulley is removed.

Installing the Pulley

1. Install the new pulley.

2. Install the screws 5.

3. Install the V belt 3.

4. Use a hexagonal key to turn back the eccentric 2.

5. Tighten the screws 1 and 4.

6. Adjusting the V belt tension. See *Adjusting the V-Belt Tension of Coiler Drive (CBA 1200)* ▶ 366

⇒ The pulley is installed.

Result The winding distance is adjusted.

7.11.9.16 Changing the Distance of the Sliver to the Can (CBA-5)

The distance of the sliver to the can is changed by moving the can plate drive. The distance should be in the range from 8 to 10 mm when the can is $\frac{3}{4}$ full.

Moving the Can Plate Drive

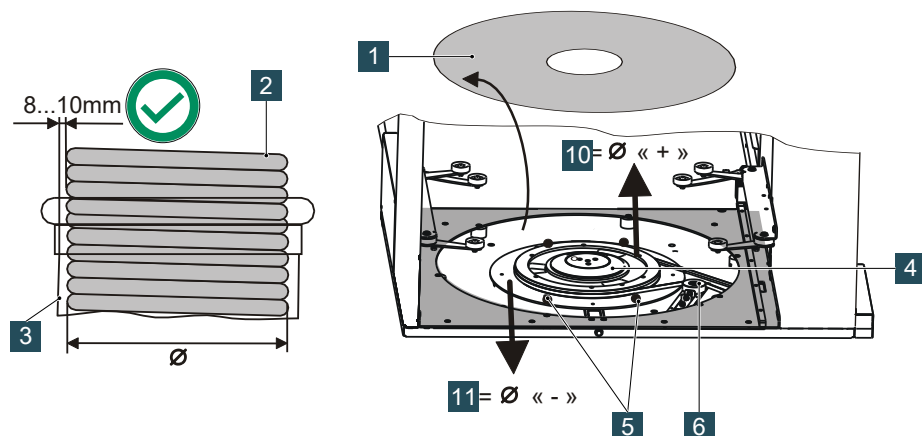


Figure 354: Distance between the sliver and the can

1. Examine the change in the distance between can **3** and the sliver **2**.
2. Remove the can plate **1**.
3. Loosen the tension roller **6**.
4. Loosen all bolts **5**.
5. Push the can plate drive **4** in the direction of the arrow **10**, to increase the sliver diameter.
6. Push the can plate drive **4** in the direction of the arrow **11**, to decrease the sliver diameter.
7. Tighten the all bolts **5**

Adjusting the Cover Plate Position

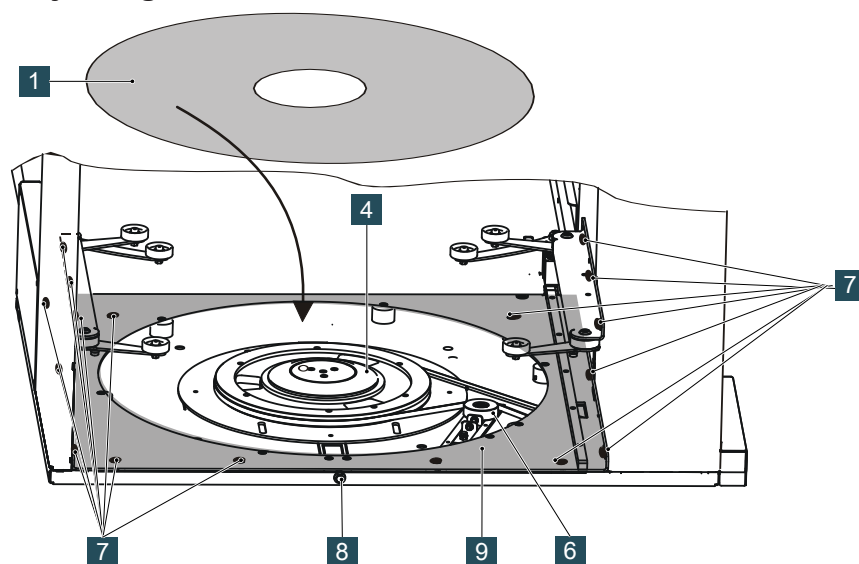


Figure 355: Adjustment of the position of the cover plate

1. Loosen all screws **7**.
2. Put the can plate **1** on the can plate drive **4**.
3. Move the cover plate **9** with the adjustment screw **8**.
4. Align the cover plate **9** correctly with the can plate **1**.
⇒ The gap between the cover plate **9** and the can plate **1** must be as small in all directions.
5. Tighten the drive belt with the tension pulley **6**.
6. Apply correct tension to the V-belt of the can plate drive.
7. Tighten the screws **7** apart from at the positioning levers.
8. Tighten the screws of the can plate.
9. Examine the distance between the cover plate **9** and the can plate **1** again.
10. Refer to the new can position to adjust the positioning levers.
11. Adjust the positioning lever for the can. See Adjusting the Positioning Levers for the Can

Result The distance of the sliver to the can is changed.

7.11.9.17 Changing the Distance of the Sliver to the Can (CBA 1200)

The user can change the can position to change the distance between the sliver and the can.

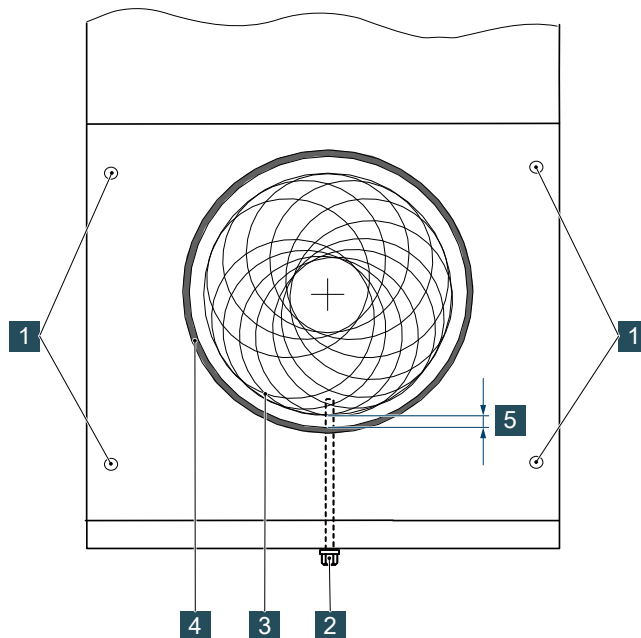


Figure 356: Top view of the distance between the sliver and the can

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Loosen the 4 screws **1**.

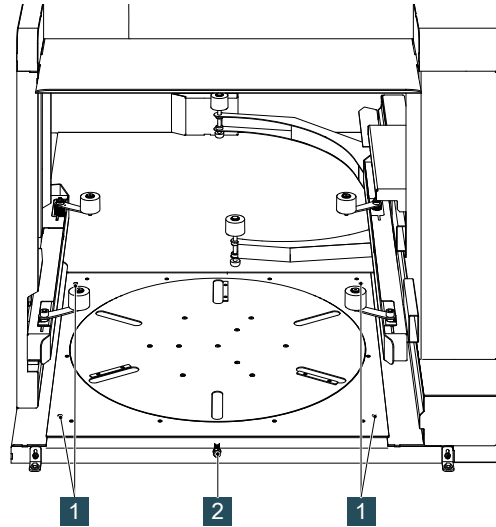


Figure 357: Can plate

2. Turn the spindle **2** clockwise to move the can near the spindle head.
3. Turn the spindle **2** counterclockwise to move the can away from the spindle head.
4. Make sure the distance **5** between the sliver **3** and the inner side of the can **4** is approximately 15 mm.
5. Tighten the 4 screws **1** of the cover plate.

Result The distance of the sliver to the can is changed.

7.11.9.18 Adjusting the Speed of the Can Carrier (CBA-5)

Throttle for Can Carrier

Ejecting (direction 3)	Y5
Going back (direction 2)	Y4

1. Remove the cover **1**.
⇒ Throttles are open to access.

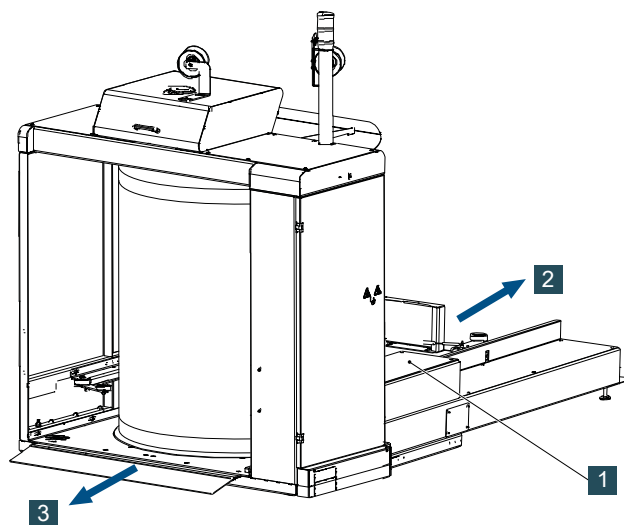


Figure 358: Can carrier

2. To set the speed of the can moving in direction **3** adjust the throttle Y5, refer to the table above.
3. To set the speed of the can moving in direction **2** adjust the throttle Y4.
4. To set the speed of the can carrier lower, turn the throttle screw clockwise.
5. To prevent the wear of the drive belt, set the speed of the can carrier as low as possible.

Result The speed of the can carrier is adjusted.

7.11.9.19 Adjusting the Positioning Levers for the Can (CBA-5)

Can Diameter	1 000 mm
Distance 9	740.0 mm
Distance 10	5 mm

Prerequisites Make sure that the criteria are obeyed:

✓ The compressed-air supply is closed.

1. Remove the support **8** of the positioning levers **1** and **2**.

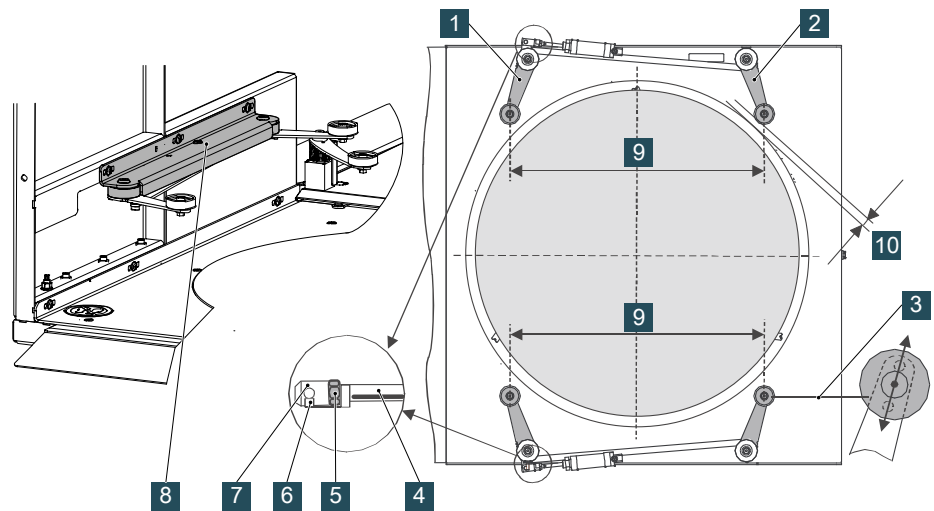


Figure 359: Adjustment of the positioning lever

2. Extend the piston rod **4** fully.
3. Loosen the nut **5**.
4. Remove the clamp **6**.
5. To set the distance **9** at the fork head **7**, refer to the table above.
6. Install the clamp **6**.
7. Tighten the nut **5**.
8. To set the distance **10**, adjust the roller **3** on the levers **1** and **2**.
9. Adjust the speed of the positioning levers **1** and **2**. See Adjusting the Speed of the Positioning Levers

Result The positioning levers for the can are adjusted.

7.11.9.20 Adjusting the Positioning Levers for the Can (CBA 1200)

Can diameter	1 200 mm
Distance 5	966.0 mm
Distance 3	20 – 22 mm

1. Loosen the screws **1**.

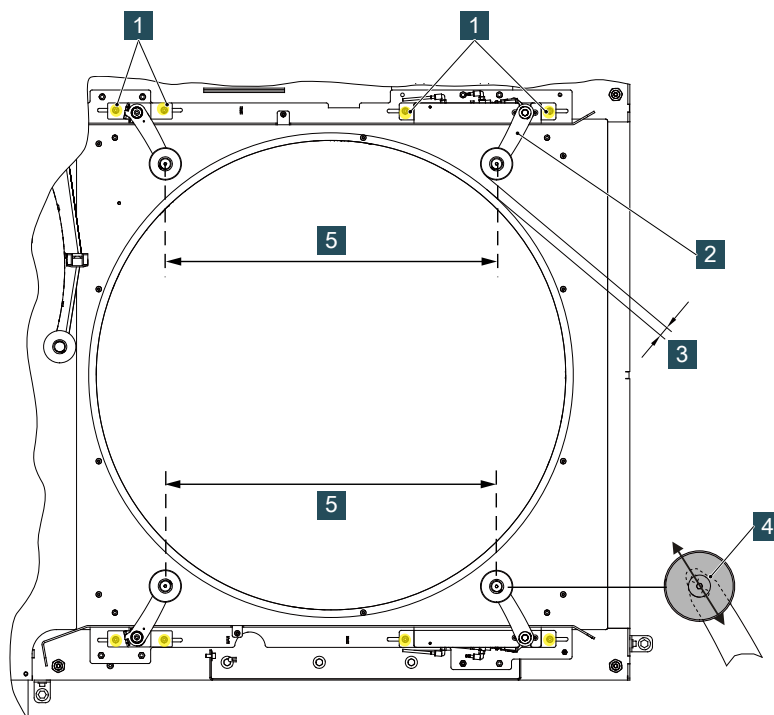


Figure 360: Adjustment of the positioning lever

⇒ The levers **2** can be moved.

2. Move the levers until the distance **5** is 966 mm.
3. Adjust the rollers **4** until the distance **3** is 22 – 24 mm.

Result The positioning levers for the can are adjusted.

7.11.9.21 Adjusting the Sensor of the Position Lever (CBA 1200)

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

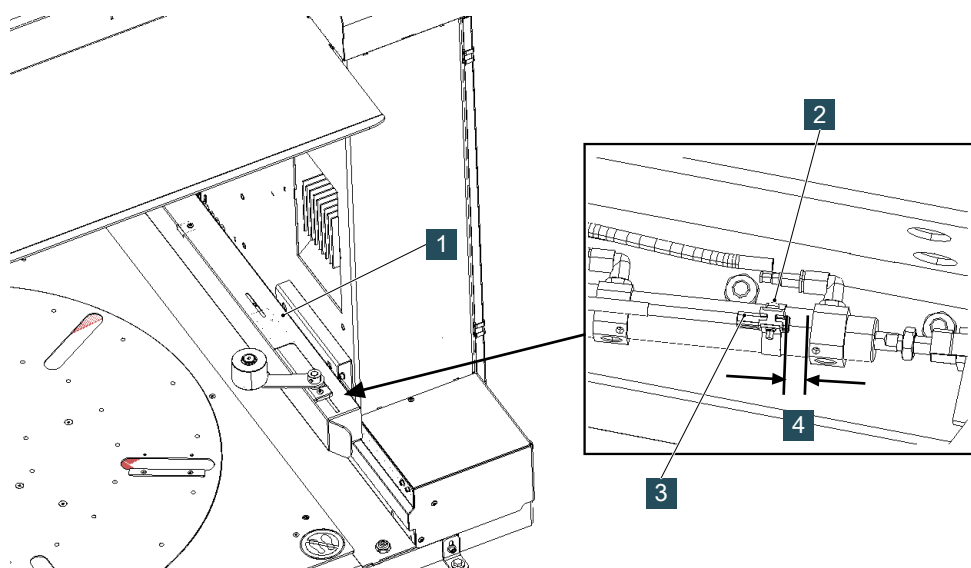


Figure 361: Sensor of position lever

1. Remove the cover **1**.
2. Loosen the screw **2** of the clamp.
3. Move the sensor **3** to make sure that the distance **4** is 10 ± 1 mm.
4. Tighten the screw **2**.

Result The sensor of the position lever is adjusted.

7.11.9.22 Adjusting the Crossbar Rollers of the Can Carrier (CBA 1200)

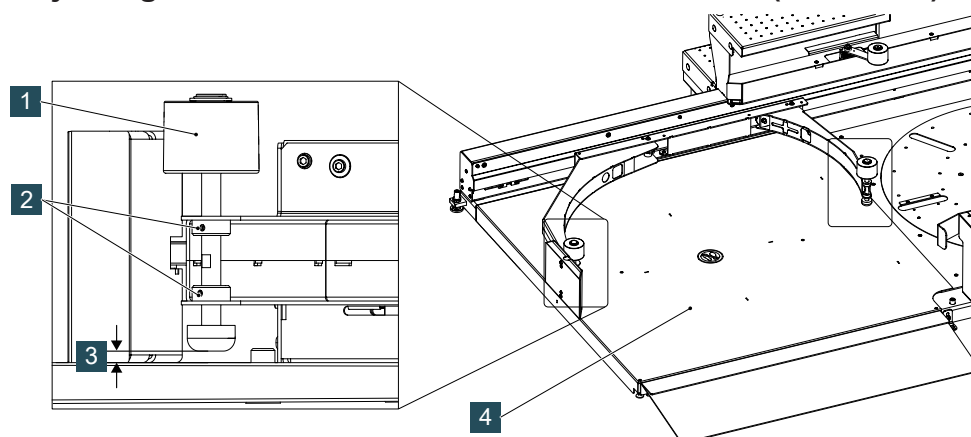


Figure 362: Crossbar roller

1. Loosen the screws **2**.
2. Move the crossbar roller **1**.
3. Make sure that the distance **3** between the bottom of the crossbar roller and the insert plate **4** is 10 ± 1 mm.

4. Do the same procedure for the other crossbar roller.

Result The crossbar rollers are adjusted.

7.11.9.23 Adjusting the Speed of the Positioning Levers

Position of the Lever	Damping
Close	Connection 4 of the valve Y1
Open	Connection 2 of the valve Y1

Position of the Lever	Speed
Close	Slow
Open	Fast

1. Remove the cover **2**.

⇒ Throttles are open to access.

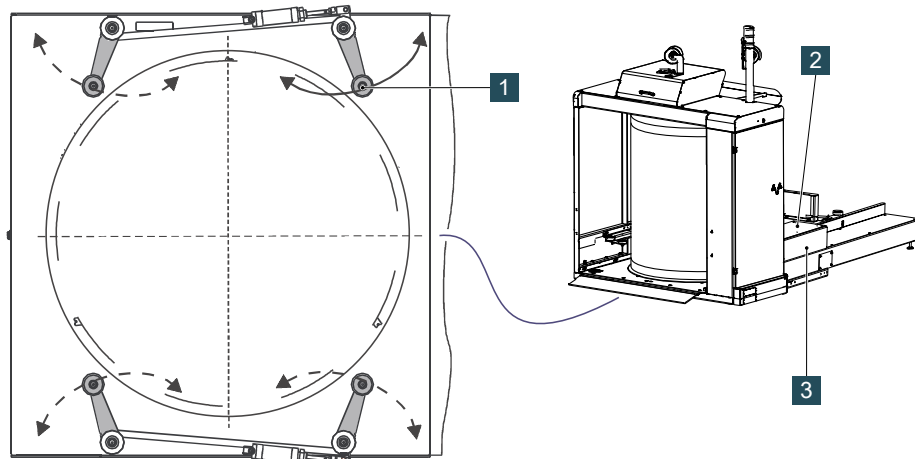


Figure 363: Adjustment of the positioning lever (Option: CBA-5)

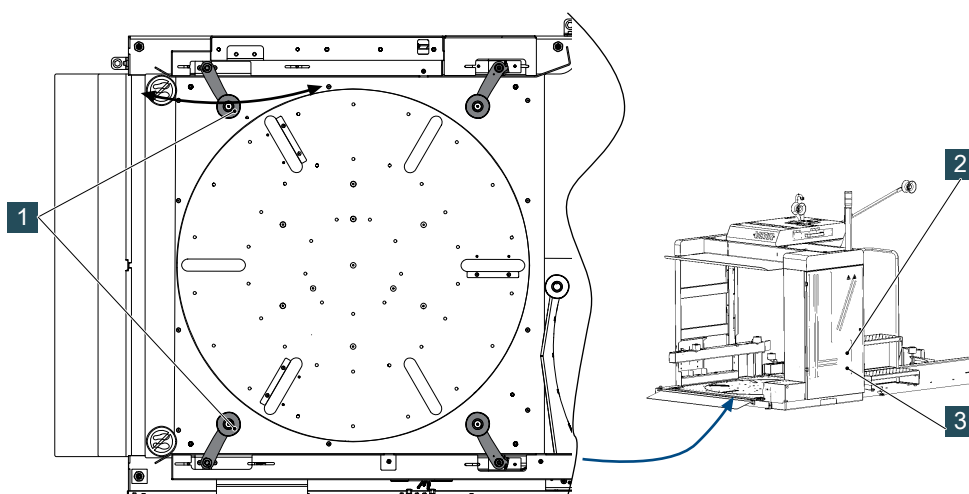


Figure 364: Adjustment of the positioning lever (Option: CBA 1200)

2. To select the correct throttle of the air line to the throttle valve Y1 **3**, refer to the above table.
⇒ The compressed air is controlled.
3. Turn the throttle screw clockwise.
⇒ The speed is decreased.
4. To adjust the speed of the positioning lever **1**, refer to the above table.
5. Install the cover **2**.

Result The speed of the poisoning lever is adjusted.

7.11.9.24 Adjusting the Magnetic Switch for the Change Carriage Drive (CBA-5)

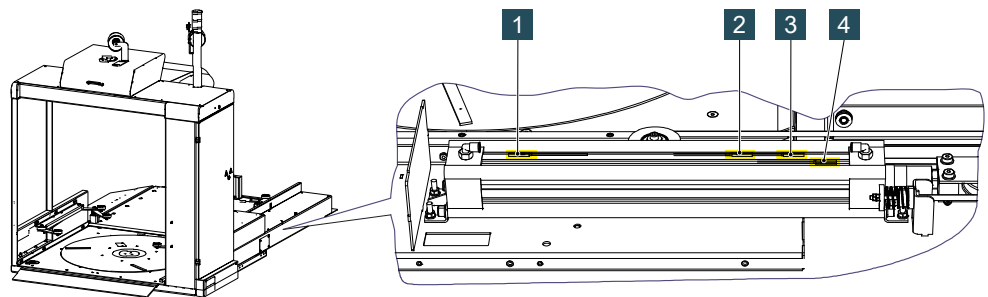


Figure 365: Adjustment of the magnetic switch

1 Magnetic switch B9, for the change trolley monitoring, rear.

2 Magnetic switch B8, for the sliver cutting operation.

3 Magnetic switch B16, for closing the positioning lever

4 Magnetic switch B10, for the change trolley monitoring, front.

Distance 7 for Different Can Diameter

750 mm, 800 mm, 1 000 mm can diameter	72 mm
600 mm can diameter	107 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The time for the sliver cutting operation is adjusted. See Setting the Time of the Sliver Cutting
- ✓ The compressed-air supply is closed.



WARNING

Moving parts!

Injury because of pneumatically operated machine section

- Close the opening of the compressed air system.

1. Move the magnetic switch B9 **1**, to adjust the distance **5** to 40 mm.

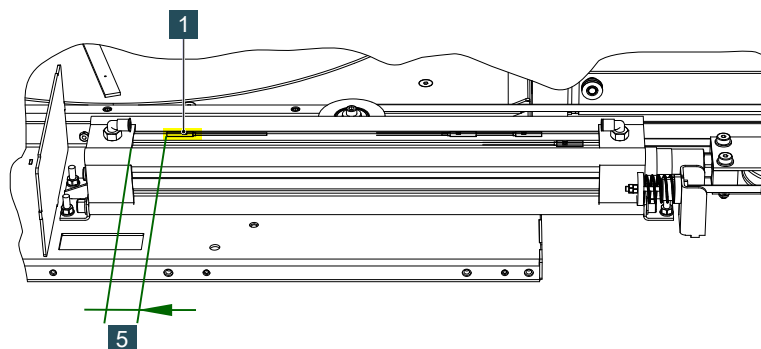


Figure 366: Adjustment of the magnetic switch B9

2. Move the magnetic switch B10 **4**, to adjust the distance **6** to 20 mm.

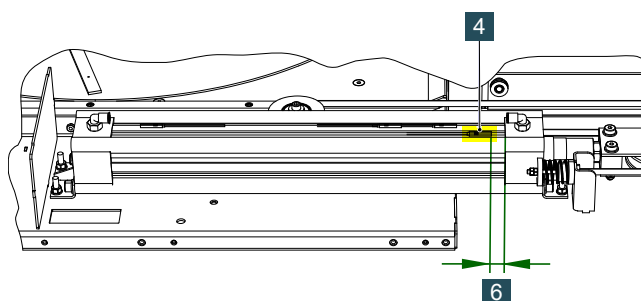


Figure 367: Adjustment of the magnetic switch B10

3. Move the magnetic switch B16 **3**, to adjust the distance **7** in accordance with the table above.
 ⇒ During the can change process: the positioning levers are closing, as soon as the empty can reaches the rotary plate.
4. Execute a can change and observe the process.

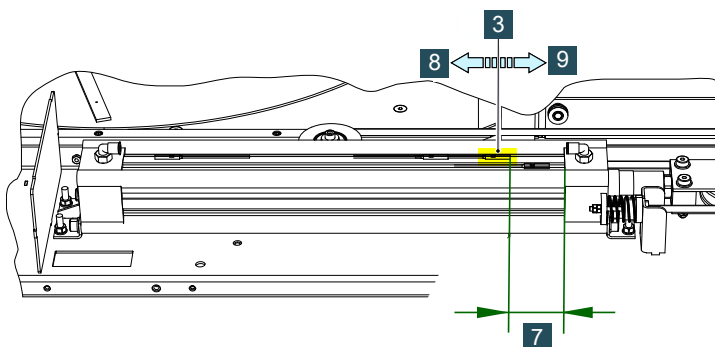


Figure 368: Adjustment of the magnetic switch B16

5. Move the magnetic switch **3** in the direction of **8** if the positioning levers close too quickly.

6. Move the magnetic switch **3** in the direction of **9** if the positioning levers close too late.

Result The magnetic switches for the can trolley drive are adjusted.

7.11.9.25 Adjusting the Position Sensors of the Can Changer (CBA 1200)

Distance	Value (mm)
A	428
B	989
C	459

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Loosen the screws at the position sensor **4** B65.

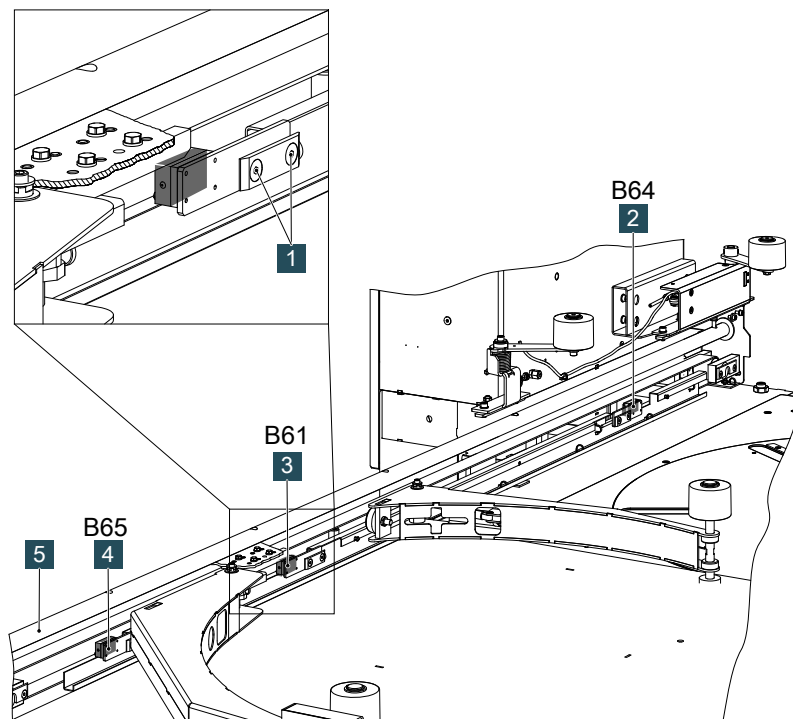


Figure 369: Position sensors of the can changer

2. Set the distance **A** between the position sensor **4** B65 and the left side of the housing **5** to 428 mm.

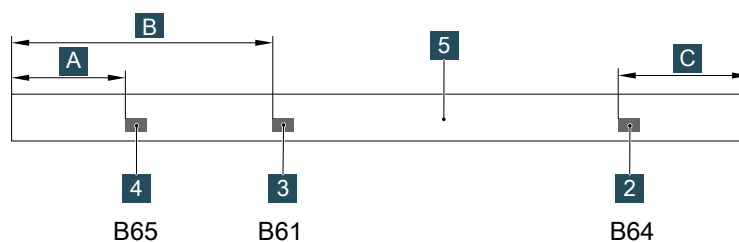


Figure 370: Position sensors

3. Tighten the screws at the position sensor **4** B65.
4. Set the distance **B** between the position sensor **3** B61 and the left side of the housing **5** to 989 mm in the same procedure of the steps **1** to **3**.
5. Set the distance **C** between the position sensor **2** B64 and the right side of the housing **5** to 459 mm in the same procedure of the steps **1** to **3**.

Result The position sensors of the can changer are adjusted.

7.11.9.26 Adjusting the Empty-Can Indicator (CBA 1200)

Prerequisites Make sure that the criteria are obeyed:

✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Loosen the screws **1** and **2** at the empty-can indicator **5** B66.

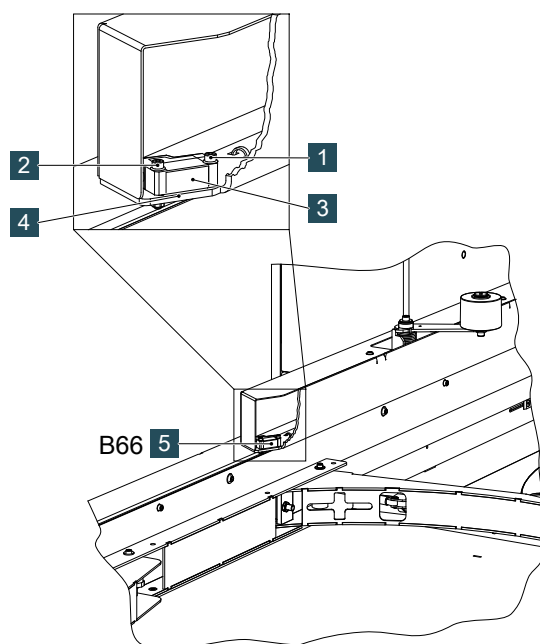


Figure 371: Empty can indicator

2. Turn the empty-can indicator **5** B66 around the screw **1** until the surface **3** of the empty-can indicator **5** is parallel with the edge **4**.
3. Tighten the screws **1** and **2** at the empty-can indicator **5** B66.

Result The empty-can indicator is adjusted.

7.11.9.27 Adjusting the Sensor on the Main Motor Shaft (CBA 1200)

The sensor B60 on the main motor shaft works for the frequency converter.

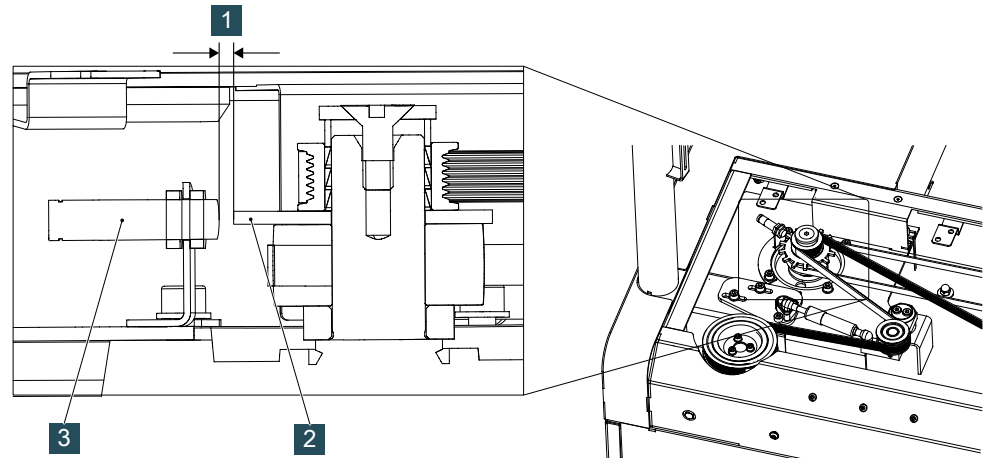


Figure 372: Sensor on the main motor shaft

1. Adjust the sensor B60 **3**.
2. Make sure that the distance **1** between the sensor **3** and the pulse counter **2** is in the range from 2 mm to 2.5 mm.

Result The sensor on the main motor shaft is adjusted.

7.11.9.28 Adjusting the Sensor for Position of Sliver Duct (CBA 1200)

The sensor B18 is used to sense the position of the sliver duct. Indication of the position is necessary for correct sliver cutting. Then the full can is replaced.

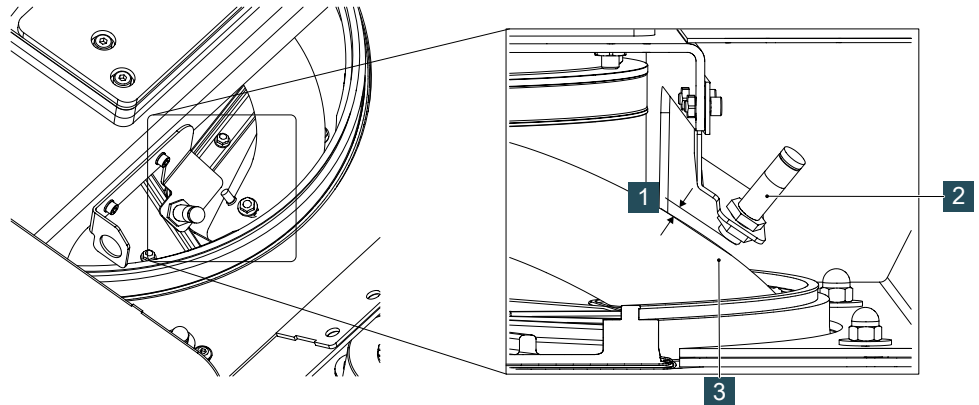


Figure 373: Sensor for the sliver duct

1. Adjust the sensor B18 **2**.
2. Make sure that the distance **1** between the sensor **2** and the outer surface **3** of the sliver duct is in the range from 2 mm to 2.5 mm.

Result The sensor for position of sliver duct is adjusted.

7.12 Quality Monitoring

This section contains the information about the quality monitoring.

7.12.1 Correcting the Can Fill Quantity

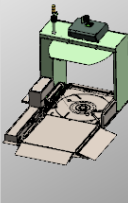
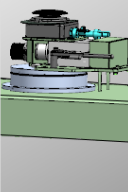
2.3.2.1 Coiler Settings I		7:59:16	
8118 Delivery normal			
	Empty can warning	5000	m
	Deliv. can change, card	150	m/min
	Draft card to coiler	1.05	...
	Can change sliver channel blow-in time	1	min
	Max. time, funnel to top	2.0	s
	Length of sliver separation	0.01	s
	Man. can change, lower speed	On	

Figure 374: Data screen 2.3.2.1 Settings coiler I

1. Examine the can filling in the data screen 2.1.1 **Production Nominal values**.
2. Enter the password of the authorization level 1.
3. Select the data screen 2.3.2.1.
4. Examine if the correction value is in the range of -10 % to +10 %.
5. Decrease the value in the field **Can filling correction** if the can fills above capacity.
 - ⇒ The lower delivery speed is adjusted to correct the can filling.
6. Increase the value in the field **Can filling correction** if the can does not fill to the capacity.
 - ⇒ The higher delivery speed is adjusted to correct the can filling.

Result The can fill quantity is corrected.

7.12.2 Moving out the Calender Rollers

1. Pull the lever **1** outside.

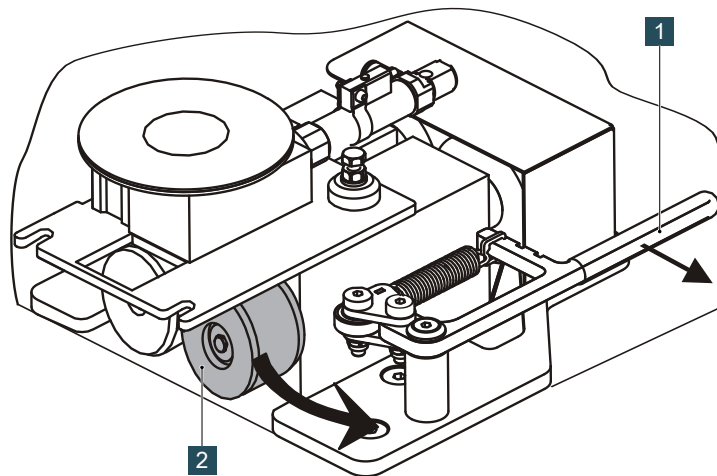


Figure 375: Calendar rollers

2. Move the support with the calendar roller 2.

Result The calendar rollers are moved out.

7.12.3 Adjusting the Shut-Off Limit for the Card Sliver Monitoring and the Spectrogram

2.2.2.4 Q-data Nominal values Card spectrogr.		7:56:37
8118	Delivery normal	
	Interval length	800 m
	Monitoring	Off
	Shut-off limit	2.5
	Length up to fault	1000 m

Figure 376: Data screen 2.2.2.4 Q-data nominal values card spectrogr.

For Shut-off limit

Range	1.4 – 5 %
-------	-----------

For Shut-off limit

Sensitivity: Relatively low	Fewer stops; percentage setting high
Sensitivity: Relatively high	More stops; percentage setting low

For Length up to fault

Range	0 — 3 000 m
Default	≈ 1 500 m
Length: Shorter	More stops
Length: Longer	Fewer stops

1. Enter the password for the level 1.
2. Select the data screen 2.2.2.4 **Q-data Nominal values Card spectrogr. .**
3. Enter the length in the range of 400 – 10 000 m in the field **Interval length**.
4. Enter the tolerance in the field **Shut-off limit** refer to the above table.
5. Enter the time interval in the field **Length up to fault** refer to the above table.

Result The shut-off limit for the card sliver monitoring and spectrogram is adjusted.

7.12.4 Adjusting the Shut-Off Limit for the Card Sliver Monitoring

2.2.2.5 Q-data Nominal values Card Thick places		7:56:49
8118 Delivery normal		
Reference length	1000	m
Monitoring	Off	
Monitored class	±45%	
Shut-off limit	5.0	1/km
Length up to fault	1000	m

Figure 377: Data screen 2.2.2.5 Q-data nominal values card thick places

For Reference length

Range	300 – 10 000 m
Default	≈ 1 000 m
Length: shorter	More stops
Length: longer	Fewer stops

For Shut-off limit

Range	0.5 – 20
Number: relatively high	More stops
Number: relatively low	Fewer stops

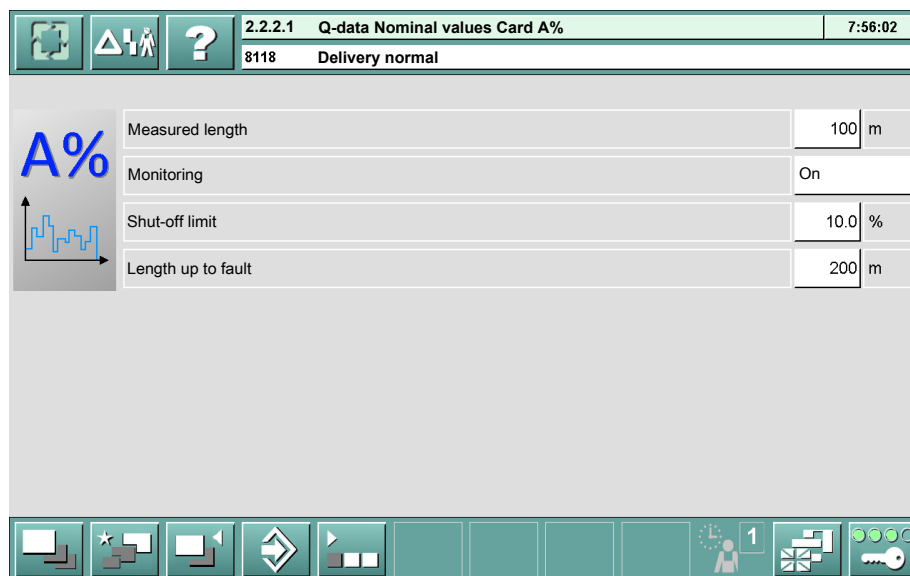
For Length up to fault

Range	0 – 3 000 m
Length: shorter	More stops
Length: longer	Fewer stops

1. Enter the password in level 1.
2. Select the data screen 2.2.2.5 **Q-data Nominal values Card Thick places**.
3. Enter the length in the field **Reference length**.
4. Select **ON** in **Monitoring**.
5. Enter the class in the field **Monitored class**.
6. Enter the tolerance in the field **Shut-off limit**.
7. Enter the time interval in the field **Length up to fault**.

Result The shut-off limit for the card sliver monitoring is adjusted.

7.12.5 Adjusting the Shut-Off Limit A%



The screenshot shows a control interface for '2.2.2.1 Q-data Nominal values Card A%'. At the top, there's a status bar with '8118 Delivery normal' and a timestamp '7:56:02'. On the left, there's a blue 'A%' label and a small line graph. The main area contains four input fields: 'Measured length' set to '100 m', 'Monitoring' set to 'On', 'Shut-off limit' set to '10.0 %', and 'Length up to fault' set to '200 m'. At the bottom, there's a toolbar with various icons for navigation and settings.

Figure 378: Data screen 2.2.2.1 Q-data nominal values card A%

For Measured length

Range	25 – 150 m
Default	≈ 100 m
Length: longer	Fewer stops
Length: shorter	More stops

For Shut-off limit

Range	0.5 – 10 %
Default	≈ 5 %
Percentage: high	Fewer stops
Percentage: low	More stops

For Length up to fault

Range	0 – 3 000 m
Default	1 500 m
Length: longer	Fewer stops
Length: shorter	More stops

1. Enter the password in the level 1.
2. Select the data screen 2.2.2.1 **Q-data Nominal values Card A%**.
3. Enter the length in the field **Measured length**.
4. Select **On** in **Monitoring**.
5. Enter the tolerance in the field **Shut-off limit**.

⇒ If the set shut-off limit A% is more, the time interval **Length up to fault** starts.

6. Enter the length in **Length up to fault**.

⇒ If an overrun continues longer than the length, the production stops.

Result Adjustment of the shut-Off limit A% of the card sliver monitoring is done.

7.12.6 Adjusting the Shut-Off Limit for the Coefficient CV%

The screenshot shows a software interface for adjusting the shut-off limit for the Coefficient CV%. The title bar indicates '2.2.2.2 Q-data Nominal values Card CV%' and '13:19:31'. Below the title bar, there is a status bar showing '8118 Delivery normal'. The main area contains a table of parameters:

Parameter	Value	Unit
Reference length	1000	m
Monitoring	On	
Monitored cutting length	CV%	
Shut-off limit	10.0	%
Length up to fault	0	m

On the left side of the table, there is a green icon labeled 'CV%' and a small line graph showing a fluctuating signal. At the bottom of the screen, there is a toolbar with various icons for navigation and settings.

Figure 379: Data screen 2.2.2.2 Q-data nominal values card CV%

For Reference length

Range	300 – 10 000 m
Default	3 000 m
Tendency: longer	Fewer stops
Tendency: shorter	More stops

For Shut-off limit

Range	0.5 – 10 %
Default	≈ 5 %
Length: low	More stops
Length: high	Fewer stops

For Length up to fault

Range	0 – 3 000 m
Default	1 500 m
Length: longer	Fewer stops
Length: shorter	More stops

1. Enter the password in the level 1.
2. Select the data screen 2.2.2.2 **Q-data Nominal values Card CV%**.
3. Enter the length in the field **Reference length**.
4. Select the cut length (CV1, CV10, CV3, CV5, CV7, or CV100 (Default)) in **Monitored cutting length**.
5. Enter the tolerance in the field **Shut-off limit**.
 - ⇒ If the set shut-off limit CV% is more, then **Length up to fault** starts.
6. Enter the length in the **Length up to fault**.
 - ⇒ If an overrun continues longer than the length, the production stops.

Result The shut-off limit for CV% is adjusted.

7.12.7 Correcting of the CV % Values

Prerequisites Make sure that the criteria are obeyed:

- ✓ The card is in uninterrupted production operation for more than 60 minutes.
 - ✓ 2 empty cans in ready position.
1. Enter the password in the level 1.
 2. Select the data screen 2.3.1.1 **Delivery unit settings**.
 3. Select the autoleveling system in the field **Leveling of sliver weight** as **On**.
 4. Select the data screen 2.3.1.2 **Feed unit & cylinder settings**.
 5. Select the autoleveling system in the field **Batt autoleveling** as **On**.
 6. Start the production (doffer at high speed).
 - ⇒ The production is in high speed.
 - ⇒ **Key for emptying the line** is not activated.
 - ⇒ **Key for emptying the card chute and card** is not activated.
 7. Select the data screen 2.3.2.1 **Coiler Settings I**.
 8. Enter the delivery speed in the field **Deliv. can change, card** as the same as in production operation.
 9. After a can change wait until the can is filled to 1 000 meters.

Starting Q-data Nominal Value Corrected CV%

1. Select the data screen 2.2.2.3 **Q-data Nominal val. Corrected CV%**.

The screenshot shows a software interface for quality monitoring. At the top, there's a header bar with icons for a camera, a person, and a question mark, followed by the title '2.2.2.3 Q-data Nominal val. Corrected CV%' and a timestamp '7:56:25'. Below this is a sub-header '8118 Delivery normal'. The main area contains several input fields: 'Correction factor for CV%' with a value of '1.40', 'Start correction of CV%' with a dropdown set to 'No', 'CV% measured at card' with a value of '0.0 %', 'CV% laboratory value' with a value of '0.0 %', and 'Can change' with a value of '400 m'. On the left side, there are three vertical icons: a green 'CV%' with a line graph, a bar chart, and a scale icon. At the bottom, there's a toolbar with various icons including a document, a star, a camera, a double arrow, a bar chart, a clock, a person, a document with a checkmark, and a key.

Figure 380: Data screen 2.2.2.3 Q-data nominal val. Corrected CV%

2. Select **Yes** to start the sequence in the **Start correction of CV%** .
 - ⇒ Material extraction for the laboratory measurement has begun.
 - ⇒ 400 m of sliver are delivered, then the can is changed automatically.
3. Monitor the can change.
4. Isolate the sliver manually, if necessary.
5. Do a test of the sliver in the laboratory.
6. In the field of **CV% laboratory value**, enter the value measured in the laboratory.
 - ⇒ The system calculates the correction factor **Correction factor for CV%** through the difference of the values between CV%, measured at card and **CV% laboratory value**.
 - ⇒ All CV% values found by the card are corrected with the correction factor.
 - ⇒ All CV% values shown on the card are same to the related laboratory values.

Result The CV% value of the card is corrected base on the CV% value measured in the laboratory.

7.13 UNcollect

7.13.1 Suction Points

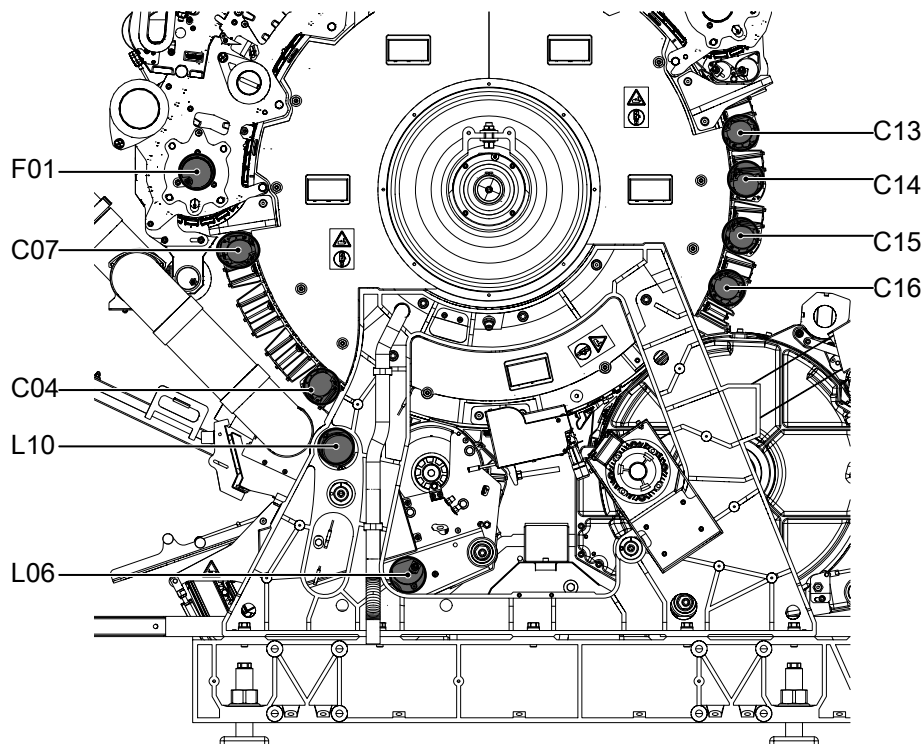


Figure 381: Suction points

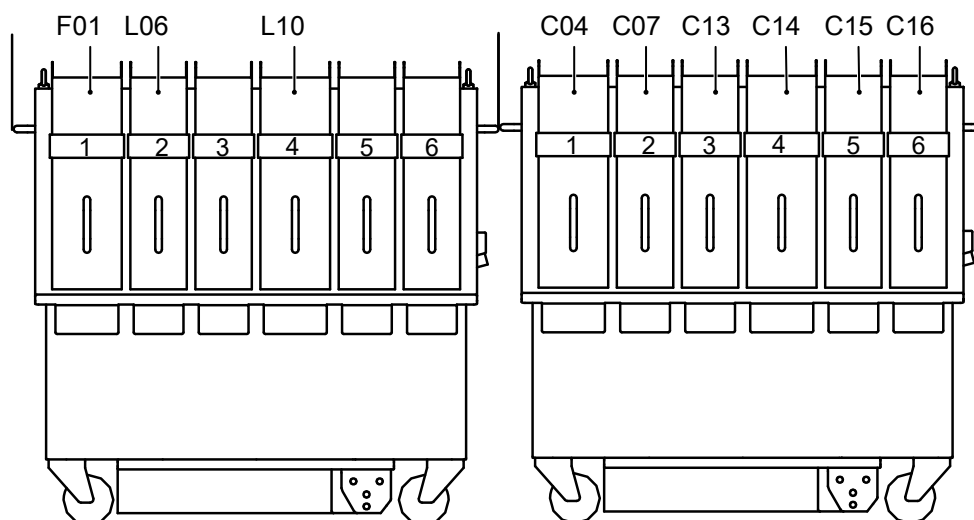


Figure 382: Connection points of the UNcollect

Suction points	Wastes from
L06	Licker in unit (without top C80)

Suction points	Wastes from
L10	Licker in unit top suction hood
F01	Card flats
C04	Pre carding zone knife 1
C07	Pre carding zone knife 2
C13	Post carding zone knife 1
C14	Post carding zone knife 2
C15	Post carding zone knife 3
C16	Post carding zone knife 4

7.13.2 Connecting the UNIconnect to the Suction Points

7.13.2.1 Connecting the UNIconnect to the Suction Points of the Flats and the Licker-in Unit

1. Set the main switch to the position OFF. Padlock the main switch.
2. On 2 sides of the machine, open the folding doors.
3. Move the 2 UNIconnects to the left side of the machine.

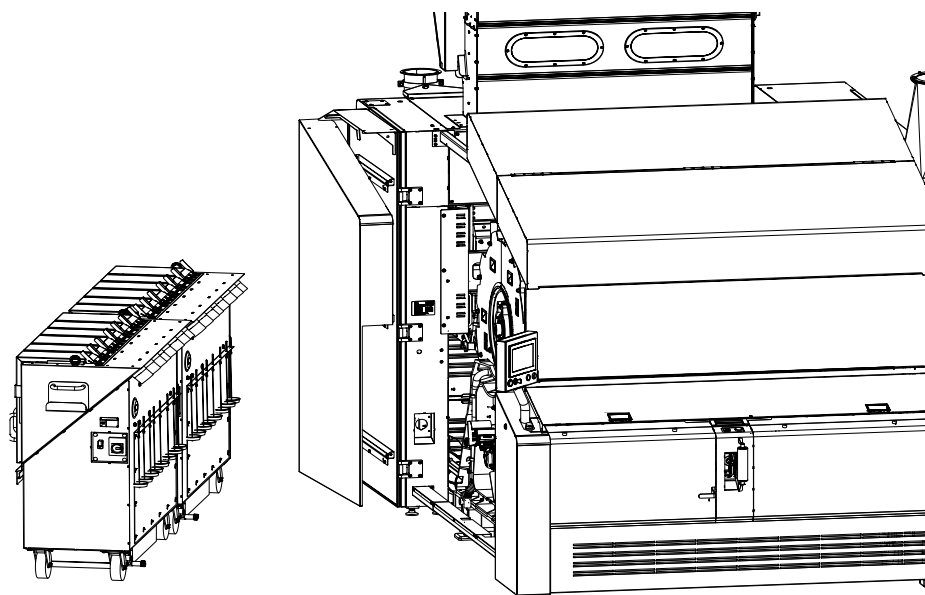


Figure 383: Card and the UNIconnect

Suction Point F01

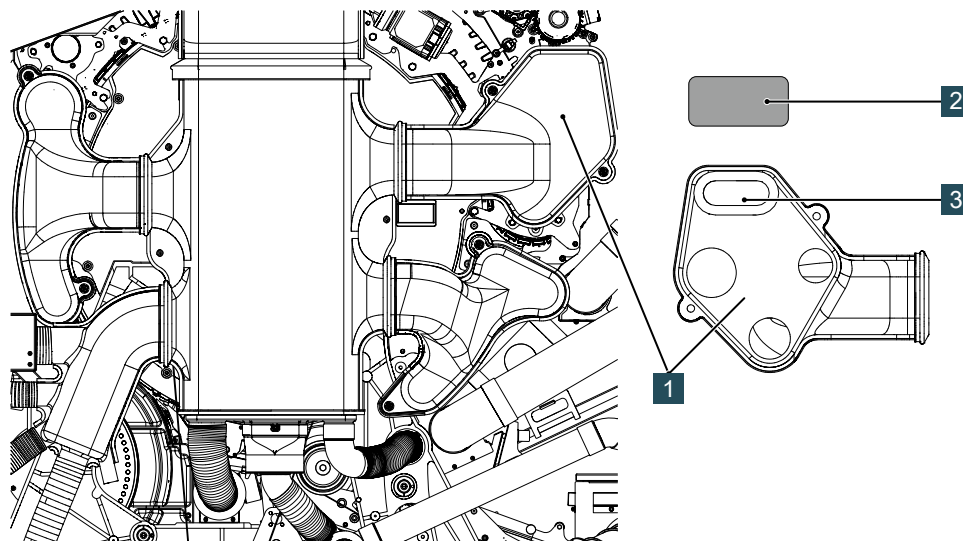


Figure 384: Preparation of the suction point F01

1. At the right side of the machine, remove the suction duct **1**.
2. Use a cardboard **2** to seal the hole **3** of the suction duct **1**.
3. Loosen the screw to remove the black flange of the flats suction.
4. Install the suction duct **1** back to the machine.
5. At the left side of the machine, remove the cover **4**.

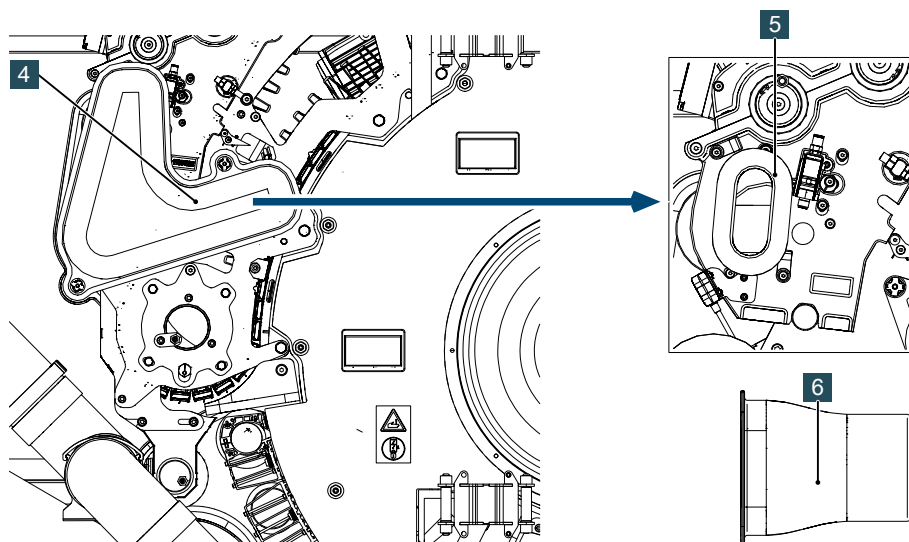


Figure 385: Preparation of the suction point F01 at the left side

6. Replace the black flange **5** with the tube connection **6**.
7. Connect the suction point F01 to the UNIconnect according the figure that follows.

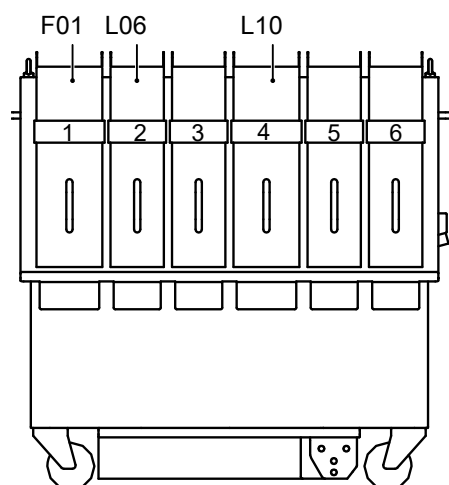


Figure 386: Connection points of the UNIconnect

⇒ The suction point F01 is connected to the UNIconnect.

Suction Points L06 and L10 (Upward Suction)

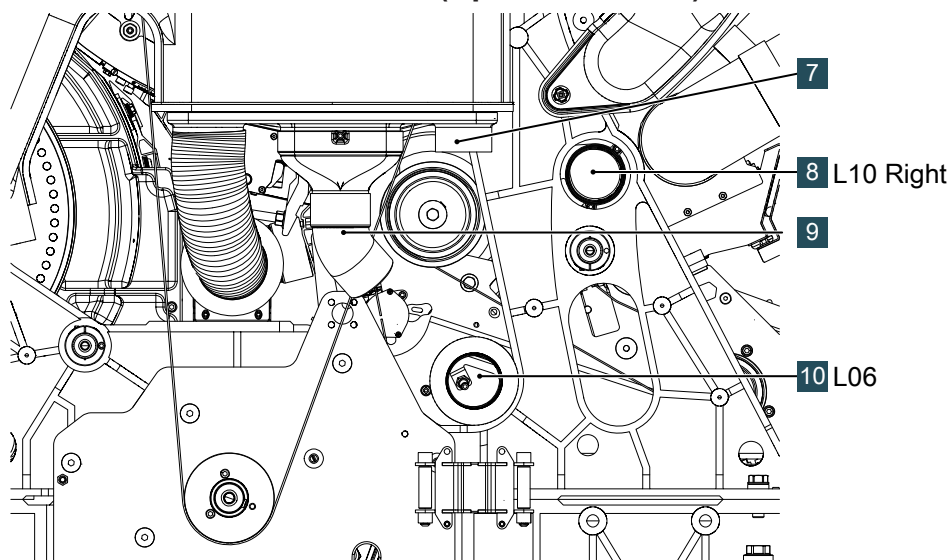


Figure 387: Suction points of licker-in unit

1. At the right side of the machine, remove the hoses of the suction ducts **7** and **9**.
2. Seal the suction ducts **7** and **9** with cardboard.
3. Use a hose to connect the No. 4 chamber of UNIconnect to the suction point L10 (right) **8**.
4. Use a hose to connect the No. 2 chamber of UNIconnect to the suction point L06 **10**.
5. At the left side of the machine, remove the suction pipe **11**.

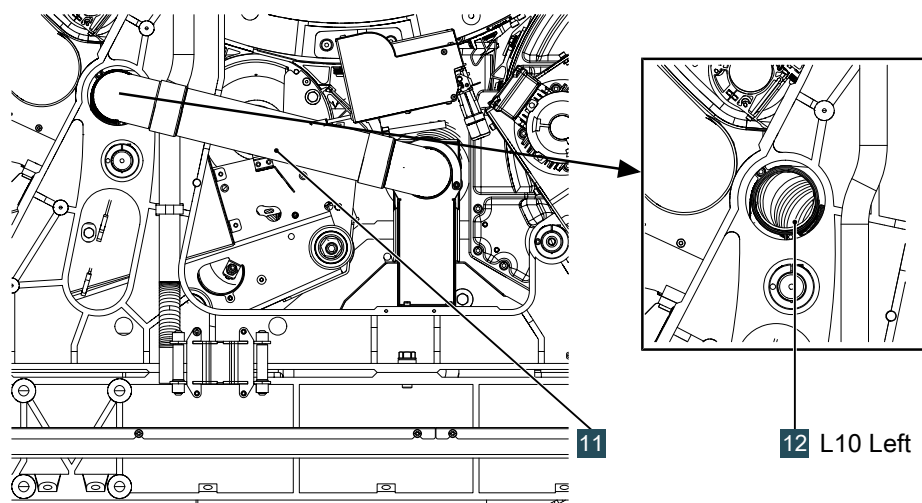


Figure 388: Suction point L10 left

6. Use a hose to connect the No.4 chamber of the UNIconnect to the suction point L10 (left) **12**.
 ⇒ The suction point L06 and L10 are connected to the UNIconnect.
7. Make sure that the rest of the suction nozzles of the UNIconnect are sealed with the covers.
8. Make sure that the hoses must not rub against the belt of the lick-in unit.
 ⇒ The suction point L06 and L10 are connected to the UNIconnect.

Suction Points L06 and L10 (Upward Suction)

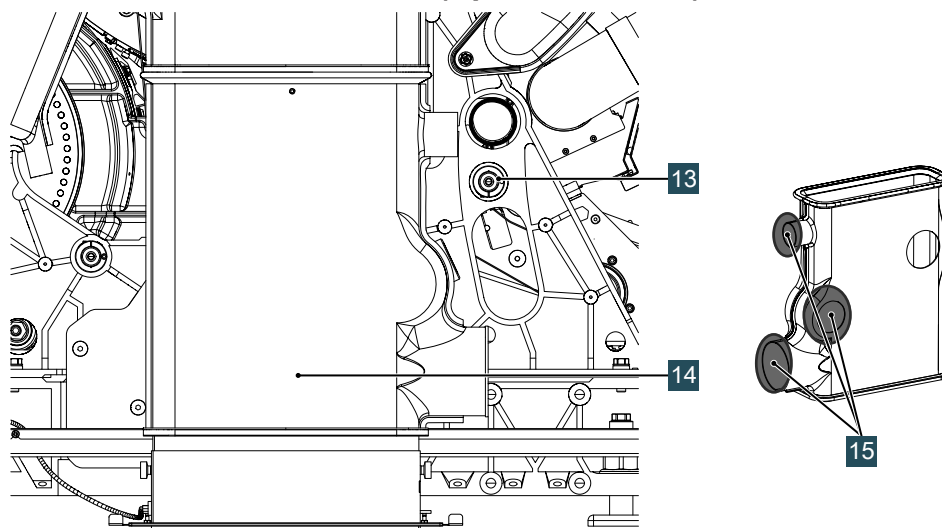


Figure 389: Suction duct (bottom)

1. At the right side of the machine, remove the suction duct **14**.
2. Seal the 3 holes **15** of suction duct **14** with the cardboards.

3. Use a hose to connect the No. 4 chamber of UNIconnect to the suction point L10 (right) **16**.

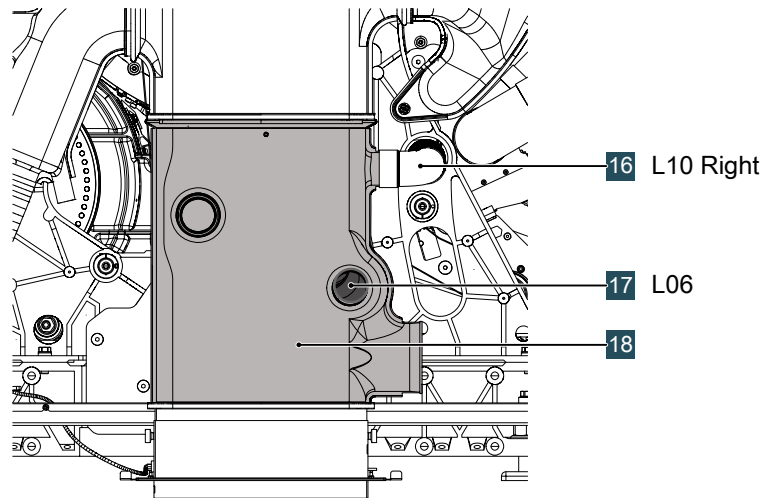


Figure 390: Suction point L10 and L06

4. Use a hose to connect the No.2 chamber of UNIconnect to the suction point L06 **17**.
5. Install the suction duct **18** back to the machine.
6. At the left side of the machine, remove the suction pipe **11**.

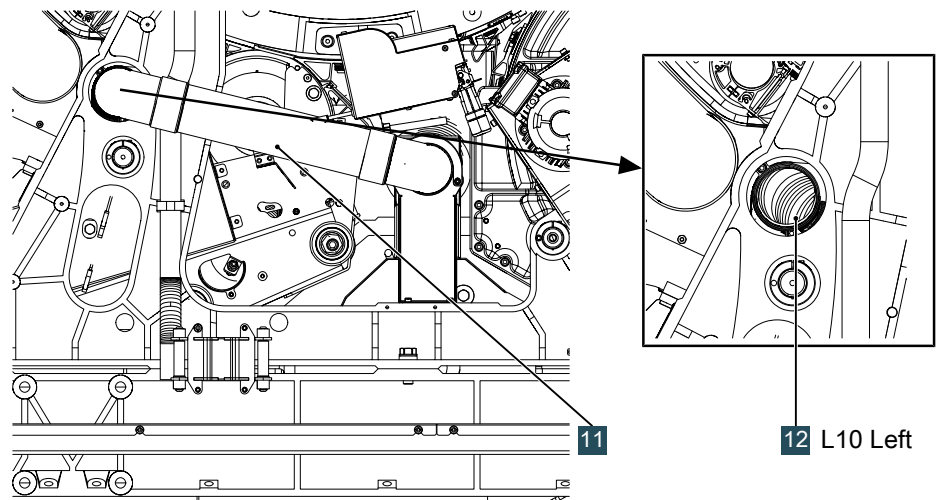
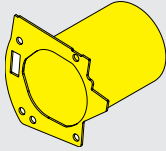


Figure 391: Suction point L10 left

7. Use a hose to connect the No.4 chamber of the UNIconnect to the suction point L10 (left) **12**.
 - ⇒ The suction point L06 and L10 are connected to the UNIconnect.
8. Make sure that the rest of the suction nozzles are sealed with the covers.
9. Make sure that the hoses must not rub against the belt of the lick-in unit.
 - ⇒ The suction point L06 and L10 are connected to the UNIconnect.

Result The suction points of the flats and the lick-in unit are connected to the UNIconnect.

7.13.2.2 Connecting the UNIconnect to the Suction Points of the Cylinder

Tool	Tool Name	Function Description
	Flange	The flange is used to connect the suction point of the cylinder to the hose of UNIconnect.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ 6 yellow adaptors are to be used.
- ✓ 6 sealing covers are to be used.

1. At the left side of the machine, install the yellow adaptors **1** at the suction points of the cylinder.

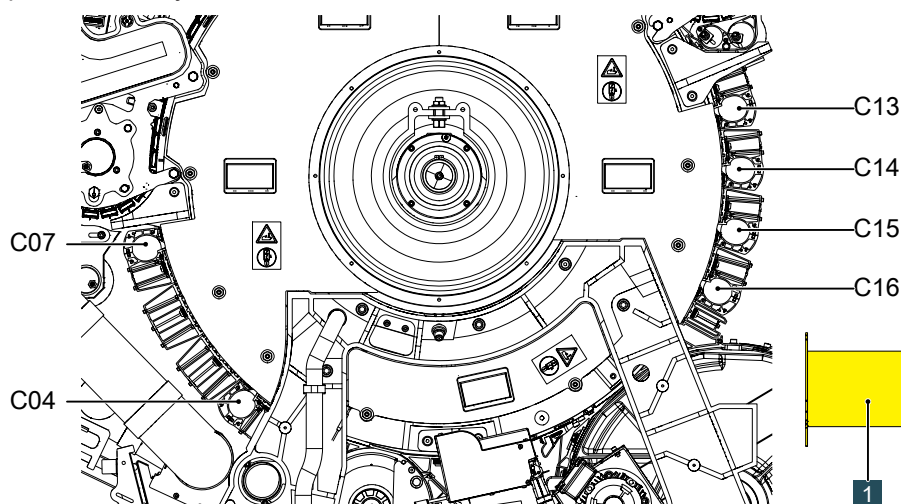


Figure 392: Suction points of the cylinder

2. Use the hose to connect the suction points to the nozzles of the UNIconnect.

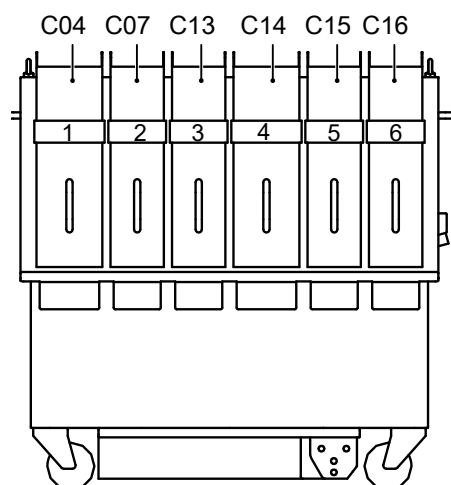


Figure 393: Connection points of the UNIconnect

3. Seal all unused nozzles of the UNIconnect with the sealing covers.
4. At the right side of the machine, remove the suction ducts **2**.

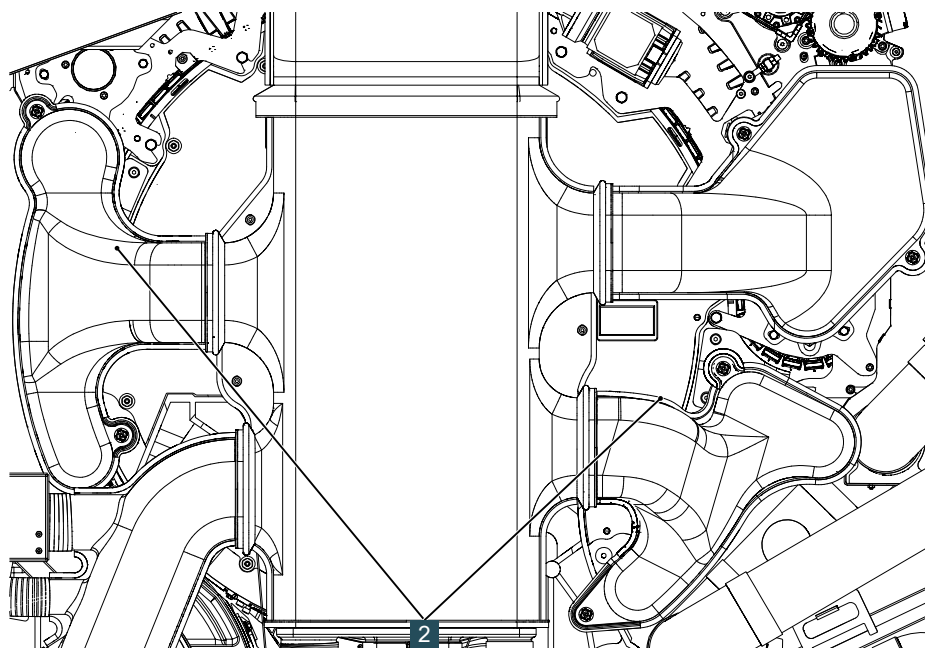


Figure 394: Suction ducts

5. Remove the flanges.
6. Seal the holes of the suction ducts with the sealing covers **3**.

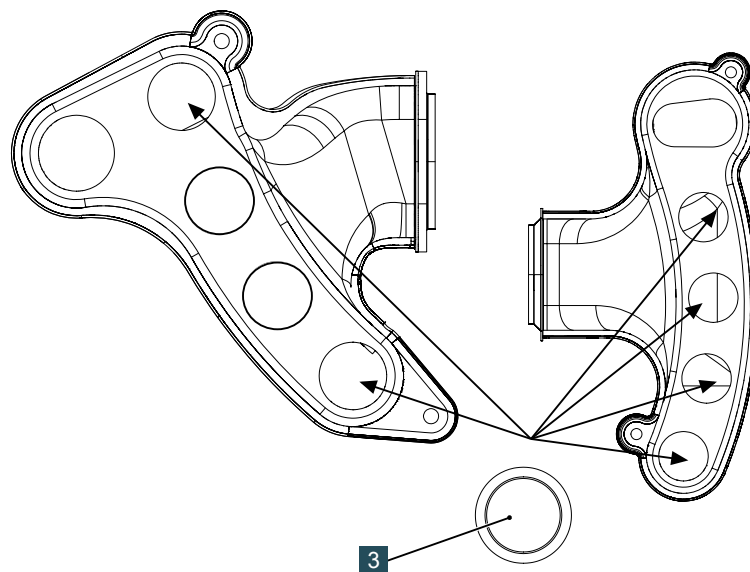


Figure 395: Plug

7. Install the suction ducts **2** back to the machine.
8. Close the folding door at the right side of the machine.

Result The suction points of the cylinder are connected to the UNIconnect.

7.13.3 Adjusting Vacuum in UNIconnect

The vacuum in the UNIconnect should be the same as the set vacuum in the central suction unit. The value of the vacuum is shown in the data screen **0.2.1 Overview**.

Vacuum Pressure in the UNIconnect

Range	-700Pa to -800Pa
-------	------------------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The suction points of the machine are connected to the UNIconnect.
 - ✓ All unused connection nozzles on the UNIconnect are closed.
1. Get the value of the vacuum in the data screen **0.2.1 Overview**.
 2. Set the switch **4** of the UNIconnect to position ON.

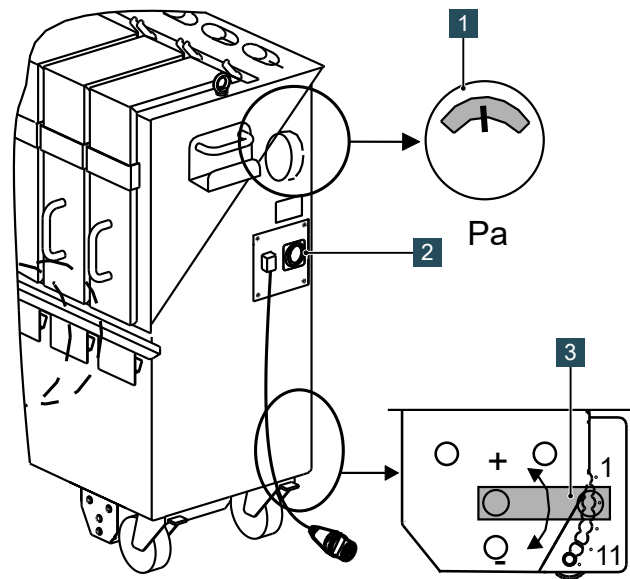


Figure 396: Adjustment of the vacuum

3. Check the pressure at the display unit **1**.
4. Use the valve **3** to adjust the vacuum pressure in UNIconnect until the vacuum pressure corresponds to the pressure shown in the data screen **0.2.1**

Overview.

Result The vacuum in the UNIconnect is adjusted.

7.13.4 Start the UNIconnect

Prerequisites Make sure that the criteria are obeyed:

- ✓ The vacuum pressure in the UNIconnect matches the pressure in the data screen 0.2.1.
 - ✓ The suction points of the machine are connected to the UNIconnect.
 - ✓ All unused connection nozzles on the UNIconnect are closed.
1. Before waste collection, let the card run in production mode for more than 40 minutes.
 2. Change the can so that the weight of the produced sliver can be determined exactly after finishing the waste collection.
 3. Immediately clean the attached suction chambers of the UNIconnect.
 4. Let the card run again for 20 minutes.
 5. Stop the production or change the can again as appropriate.
 6. To avoid the measured values for the flats waste collection is distorted, the corresponding suction chamber must be emptied immediately upon completing the waste collection.
 7. Collect waste from all chambers and put the waste into the prepared plastic sacks.

8. Accurately weigh the collected material and calculate the percentage of waste relative to the production weight.
9. Record the information in the waste study form.

7.13.5 Waste Study Form

Waste Study Form			
Date			
Card number			
Card Type		C7X	C80
Opening roller rpm			
Feed (g/m)			
Sliver weight ktex			
Cylinder rpm			
Licker-in rpm			
Licker-in distance			
Flat speed (m/min)			
Production (kg)			
Delivery speed (m/min)			
Licker-in top suction hood			
Waste plates (knife distance)			
Operation time (min)			
Weight of the waste (g)			
L06	Licker-in unit without top in C80		
L10	Licker-in unit top suction hood (only for C80)		
F01	Flat		
C04	Pre carding zone knife 1		
C07	Pre carding zone knife 2		
C13	Post carding zone knife 1		
C14	Post carding zone knife 2		
C15	Post carding zone knife 3		
C16	Post carding zone knife 4		
Total			
Production (g)			
Percentage of the waste			
L06	Licker-in unit without top in C80		
L10	Licker-in unit top suction hood (only for C80)		

.....

Waste Study Form			
F01	Flat		
C04	Pre carding zone knife 1		
C07	Pre carding zone knife 2		
C13	Post carding zone knife 1		
C14	Post carding zone knife 2		
C15	Post carding zone knife 3		
C16	Post carding zone knife 4		
Total			

.....

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8 Troubleshooting

This chapter contains the information about the fault cause and the remedy of:

- Faults that are marked with fault codes
- Faults that are not marked with fault codes
- Material specific faults

8.1 Troubleshooting Personnel

Only Rieter approved personnel are permitted to do the troubleshooting work at the machine.

8.2 About the Fault Message Lists

All faults with fault codes that are shown on the operating unit are recorded in a fault message list with numbers that increase.

The fault message list helps to correct a fault that occurs during the machine operation.

A fault message list contains 4 columns. The columns contain the information that follows:

Table Head	Explanation
Fault code	The fault code is the number to identify a fault.
Fault text	The fault text gives a short description of the fault.
Fault cause	The fault cause shows the condition that started the fault. 1 or more causes are possible.
Remedy	The remedy shows the alternatives how to correct the fault.

The machine shows different alarm levels on the operating unit. Different alarm levels cause different machine reactions.

Alarm Level	Fault Icon	Impact on the Production	Explanation
Alarm		The production stops.	An alarm immediately stops the production. An operator intervention is necessary. To start the production, is not possible until the fault is repaired. The signal lamp is on.

Alarm Level	Fault Icon	Impact on the Production	Explanation
Warning message		The production continues, but the output is possible to be decreased.	The production does not immediately decrease. An operator intervention must follow as soon as possible to prevent that the production decreases or stops. The signal lamp is off or flashes in relation to the fault cause. A warning message can become an alarm at any time.
Maintenance warning		The production continues.	A maintenance warning tells the maintenance personnel to do specified works at the machine. The maintenance warnings are caused by a software that monitors the machine units. The 2 types of maintenance warnings are: – Do the maintenance as soon as possible. Get maintenance personnel in less than a day. – Do the maintenance during the next timed maintenance interval. The signal lamp flashes. A maintenance warning can get an alarm at any time.

Data in curly parentheses {...} are placeholders for a number or a text in the fault message that is adapted to the situation.

8.3 Troubleshooting List

Fault Code	Fault Text	Cause	Remedy
202	FatalError() , see logbook	A warning message is shown on the data screen 1.4.4.	Solve the causes of the warning message.

Fault Code	Fault Text	Cause	Remedy
		Software error	– Stop the machine. – Make sure that the machine is at a standstill. – Set the main switch to the position OFF. – Set the main switch to the position ON. – If necessary, inform the customer service of RIETER Machine Works Ltd.
204	Control module DIF371 fault/defect. A31	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
206	Control module DIF371 fault/defect. A32	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.

Fault Code	Fault Text	Cause	Remedy
208	Control module DOF322 fault/ defect. A35	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
210	Control module PS2100 fault/ defect. A101	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
212	Control module DO4332-1 fault/ defect. A36	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.

Fault Code	Fault Text	Cause	Remedy
214	Control module DO8322 fault/ defect. A37	Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
		Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
216	Control module PS2100 fault/ defect. A102	Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
		Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
		Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.

Fault Code	Fault Text	Cause	Remedy
218	Control module DO2322 fault/ defect. A38	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace the module.
220	Control module DI6371 fault/ defect. A61	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		The power supply is not connected. No LED is illuminated.	Connect the plug to the module.
		Node switch is not set correctly.	Set the node switch according to electro documentation.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace module.
		Configuration: Incorrect machine type is set in data screen 3.3.3.	Set the correct machine type (<i>refer to ► 207</i>).
		Configuration: Incorrect coiler type is set in data screen 3.3.4.	Set the correct coiler type (<i>refer to ► 209</i>).

Fault Code	Fault Text	Cause	Remedy
		CAN bus not connected	– Check can bus connection for loose wires and loose connectors. – Check termination resistors according to schematic diagram.
222	Control module DO8322 fault/ defect. A65	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		The power supply is not connected. No LED is illuminated.	Connect the plug to the module.
		Node switch is not set correctly.	Set the node switch according to electro documentation.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace module.
		Configuration: Incorrect machine type is set in data screen 3.3.3.	Set the correct machine type (<i>refer to ► 207</i>).
		Configuration: Incorrect coiler type is set in data screen 3.3.4.	Set the correct coiler type (<i>refer to ► 209</i>).
		CAN bus not connected	– Check can bus connection for loose wires and loose connectors. – Check termination resistors according to schematic diagram.

Fault Code	Fault Text	Cause	Remedy
224	Control module BC0073 fault/ defect. A60	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		The power supply is not connected. No LED is illuminated.	Connect the plug to the module.
		Node switch is not set correctly.	Set the node switch according to electro documentation.
		Module missing – No connection to module.	– Plug in module correctly. – Make sure that the contact between the bus modules is good.
		Module is defective.	Replace module.
		Configuration: Incorrect machine type is set in data screen 3.3.3.	Set the correct machine type (<i>refer to ► 207</i>).
		Configuration: Incorrect coiler type is set in data screen 3.3.4.	Set the correct coiler type (<i>refer to ► 209</i>).
		CAN bus not connected	– Check can bus connection for loose wires and loose connectors. – Check termination resistors according to schematic diagram.
226	DOF322 ctrl. module, overcurr.A35	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.

Fault Code	Fault Text	Cause	Remedy
		Overcurrent in one or more of the outputs. – LED “s” is blinking red.	– Check which output has the overcurrent. – Remedy the short circuit.
228	DO4332-1 ctrl. module, overcurr.A36	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Overcurrent in one or more of the outputs. – LED “e” is blinking red.	– Check which output has the overcurrent. – Change to the data screen 4.2.3 (<i>refer to ► 223</i>). – Do a test for each output one by one to find which output has the overcurrent. – Remedy the short circuit.
230	DO8322 ctrl. module, overcurr.A37	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Overcurrent in one or more of the outputs. – LED “e” is blinking red.	– Check which output has the overcurrent. – Change to the data screen 4.2.3 (<i>refer to ► 223</i>). – Do a test for each output one by one to find which output has the overcurrent. – Remedy the short circuit.

Fault Code	Fault Text	Cause	Remedy
232	DO2322 ctrl. module, overcurr.A38	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Overcurrent in one or more of the outputs. – LED “e” is blinking red.	– Check which output has the overcurrent. – Change to the data screen 4.2.3 (<i>refer to ► 223</i>). – Do a test for each output one by one to find which output has the overcurrent. – Remedy the short circuit.
234	BC0073 CAN module, overcurr. A60	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Overcurrent in one or more of the outputs. – LED “e” is blinking red.	– Check which output has the overcurrent. – Change to the data screen 4.2.3 (<i>refer to ► 223</i>). – Do a test for each output one by one to find which output has the overcurrent. – Remedy the short circuit.

Fault Code	Fault Text	Cause	Remedy
236	DO8322 ctrl. module, overcurr.A45	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Overcurrent in one or more of the outputs. – LED “e” is blinking red.	– Check which output has the overcurrent. – Change to the data screen 4.2.3 (<i>refer to ► 223</i>). – Do a test for each output one by one to find which output has the overcurrent. – Remedy the short circuit.
238	PS2100 ctrl. module, no supply inp., A101	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		No power supply to digital outputs. – LED “e” is double flashing red.	Check if the plug socket of the module is plugged in firmly. Check if there is a fault with contactors K21.1 and K22: – Replace the relay if contacts of contactor stick or do not switch. – Check wiring.

Fault Code	Fault Text	Cause	Remedy
240	PS2100 ctrl. module, no supply inp., A102	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		No power supply to digital outputs.	Check if the plug socket of the module is plugged in firmly.
		– LED “e” is double flashing red.	Check if there is a fault with contactors K22 and K23: – Replace the relay if contacts of contactor stick or do not switch. – Check wiring.
242	DOF322 ctrl. module, no supply outp., A35	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		No power supply to digital outputs.	If module A10 has no 24V supply for the outputs (LED “e” is double flashing red),
		– Check if module A10 has 24V supply on pin 25.	– There could be a fault with contactors K21.1, K22 and K23. – Replace the relay if contacts of contactors stick or do not switch. – Check wiring. If module A10 has 24V supply for the outputs. – Plug in module correctly.

Fault Code	Fault Text	Cause	Remedy
244	DO4332-1 ctrl. module, no supply outp., A36	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		No power supply to digital outputs. – Check if module A101 has 24V supply on pin 25.	If module A101 has no 24V supply for the outputs (LED “e” is double flashing red), – There could be a fault with contactors K21.1 and K22. – Replace the relay if contacts of contactors stick or do not switch. – Check wiring.
			If module A101 has 24V supply for the outputs. – Plug in module correctly.
246	DO2322 ctrl. module, no supply outp., A38	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		No power supply to digital outputs. – Check if module A102 has 24V supply on pin 25.	If module A102 has no 24V supply for the outputs (LED “e” is double flashing red), – There could be a fault with contactors K22 and K23. – Replace the relay if contacts of contactors stick or do not switch. – Check wiring.

Fault Code	Fault Text	Cause	Remedy
			If module A102 has 24V supply for the outputs. – Plug in module correctly.
248	DO8322 ctrl. module, no supply outp., A65	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		No power supply to digital outputs. – Check if module A60 has 24V supply on pin 24.	If module A60 has no 24V supply for the outputs (LED “e” is double flashing red), – Check connection to CBA(X5). – There could be a fault with contactor K21.1. – Replace the relay if contacts of contactors stick or do not switch. – Check wiring.
			If module A60 has 24V supply for the outputs. – Plug in module correctly.
254	Control, overheating A10	The temperature in the area of the operating unit is too high.	If the ambient temperature is $\leq 50\text{ }^{\circ}\text{C}$, only the operating unit is hot. – Cool the operating unit.
			If the ambient temperature is $\geq 50\text{ }^{\circ}\text{C}$. – Lower the ambient temperature.

Fault Code	Fault Text	Cause	Remedy
256	Control module CAN fault/ defect. A11	Hardware module	NOTICE! The electric elements may be damaged! Always set the main switch to position OFF, before to do the work at the hardware module that follows: – Plug or unplug the hardware module. – Connect or disconnect the wiring. After all causes are solved, set the main switch to position ON to reset the faults.
		Module missing	If CAN module contact has problems.
		– No connection to module	– Insert CAN module correctly. If there is incorrect parametric for A11 CAN module. – Set node switches X1 and X16 according to schematic diagram.
			If the incorrect CAN module is inserted. – Insert correct CAN module according to schematic diagram. – Replace CAN module if necessary.
258	Data loss maintenance data A10	Software fault	– Confirm the fault messages. – Restart the machine.
260	Data loss Shift data A10	Software fault	– Confirm the fault messages. – Restart the machine.
262	Data loss remanent data A10	Software fault	– Confirm the fault messages. – Restart the machine.
264	Data loss Logbooks A10	Software fault	– Confirm the fault messages. – Restart the machine.
266	Data loss statistiks data A10	Software fault	– Confirm the fault messages. – Restart the machine.
268	Data loss grafik data A10	Software fault	– Confirm the fault messages. – Restart the machine.

Fault Code	Fault Text	Cause	Remedy
302	Relay fault, card service switching K23	Relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the replay is OK, examine the control signal and wiring.
304	Relay fault, card service sticking K23	Relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the replay is OK, examine the control signal and wiring.
306	Relay monitoring, card service K23	Key switch – Grinding the card flats is needed. – In the data screen 4.1.6.3, Flat grinding is selected. – But the key switch is at the position I (production operation).	Set the key switch to the position II.
		Key switch – Production operation is needed. – But the key switch is at the position II (grind card flats).	Set the key switch to the position I.
328	Disp. Chamb. top, clean.roll 2 open S57	The suction duct cover of the flats cleaning unit is open.	If the cover is open, close the cover.
			If the cover is closed, – Examine the safety switch S57. – Make sure that the safety switch is activated when the cover is closed.
336	Fault relay, ext.EMERG.-OFF,switch. K66	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.

338	Fault relay, ext.EMERG.- OFF,stick. K66	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
340	Relay monitoring, ext.EMER.-OFF K66	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
336	Fault relay, ext.EMERG.- OFF,switch. K66	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
338	Fault relay, ext.EMERG.- OFF,stick. K66	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
340	Relay monitoring, ext.EMER.-OFF K66	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
342	Fault relay, card EMERG.- OFF,switch K21	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
344	Fault relay, card EMERG.- OFF, stick.K21	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.

346	Relay monitoring, EMERG.-OFF, card K21	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
348	Fault relay, card doors, switching K22	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
350	Fault relay, card doors, sticking K22	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
360	Fault relay, watch-dog, switching K20	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
362	Fault relay, watch-dog, sticking K20	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
364	Relay monitoring, watch-dog K20	The relay does not switch.	– Examine the function of the relay by an approved electrician. – If the relay is defective, replace the relay. – If the relay is OK, examine the control signal and wiring.
		The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.

368	EMERG.-OFF button, card S8	Emergency stop button is pushed.	– Eliminate the cause of the emergency stop. – Turn the emergency stop button clockwise to release the emergency stop button.
		Emergency stop button is released.	– Tell the plant electrician. – Examine the wiring. – Do the function test of the safety relay (<i>refer to ► 777</i>).
374	Ends down B7	The card sliver is broken.	– Clean the delivery section (<i>refer to ► 757</i>). – Start the production (doffer at slow speed) (<i>refer to ► 261</i>).
		Light sensor does not detect the card sliver.	If the light sensor is incorrectly adjusted
			– Adjust the light sensor (<i>refer to ► 363</i>).
376	MPS power supply 24 VDC F1	Circuit breaker F1 – Check the IGS-classic motor. – Check the circulation fan in the control cabinet.	If the circuit breaker has tripped (one time). – Make the analysis of the mechanical reason. – After the causes are solved, push the corresponding button of the circuit breaker F1.
			If the circuit breaker trips recurrently even if the drive is mechanically in order. – Replace the circuit breaker F1.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
378	MPS power supply 24 VDC on F1	The circuit breaker is still switched ON.	Switch off the circuit breaker. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
380	Door safeguard, driving side, card S18	Doors are open.	Close the doors and the covers.

		Doors are closed, but the fault is still existing.	– Adjust the door lock mechanism and the safety switch (<i>refer to ► 105</i>). – Do a function test of the safety relay (<i>refer to ► 777</i>).
382	Coiler, hood open S15	The hood is not closed.	If the hood is open, close the hood. If the hood is closed already, but the fault message is still existing. – Examine and adjust the safety limit switches. – Do a function test of the safety relay (<i>refer to ► 777</i>).
388	Lockswitch, flat service, ON S6	Key switch – Grinding the card flats is needed. – In the data screen 4.1.6.3, Flat grinding is selected. – But the key switch is at the position I (production operation).	Set the key switch to the position II.
		Key switch – Production operation is needed. – But the key switch is at the position II (grind card flats).	Set the key switch to the position I.
390	Lockswitch, flat service, OFF S6	Key switch – Grinding the card flats is needed. – In the data screen 4.1.6.3, Flat grinding is selected. – But the key switch is at the position I (production operation).	Set the key switch to the position II.
		Key switch – Production operation is needed. – But the key switch is at the position II (grind card flats).	Set the key switch to the position I.

394	Relay monitoring, card doors K22	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
396	Relay monitor., coiler covers K66	The relay does not de-energize.	– Examine the function of the relay by an approved electrician. – If the contacts are fused, replace the relay. – If the relay is OK, examine the control signal and wiring.
400	Blowroom not ready	Minimum 1 blowroom machine is not in operation.	– Correct the faults on the appropriate machine and start the blowroom. – Make sure that the state of the last zone on plant control system must be green.
		Fire alarm system has tripped.	If the fire source has been removed, confirm the fire alarm and start the fire alarm system again. If a fire occurs. – Strike the fire alarm. – Extinguish the fire.
		Material feed of the blowroom is not switched on.	– Set the material flow to ON for the material feed of the line. – Make sure that the material flow arrow on plant control system must be light green. – Check also the card allocation in the plant control system. – Make sure that the card is allocated to the appropriate line.
		Filter system does not operate.	Put the filter system in service again.
402	Production, creep speed, stopped	Doffer was intentionally changed to creep speed.	No steps are necessary. Additional information: – This display appears as a warning 30 seconds prior to expiration of the time set in data screen 2.3.1.5. – Production stops after the set time expires.

		Doffer was not changed to creep speed.	Start the production (doffer at high speed) (refer to ► 262). Additional information: – Production remains at creep speed, if a sliver is not detected between the disk rollers.
		Doffer is at a standstill.	Start the production (doffer at slow speed) (refer to ► 261).
404	MPS on, test programs	In addition to Q15, one more motor protection switch is on.	– Switch off all motor protection switches. – Only switch on Q15.
412	External EMERGENCY STOP	Emergency stop button is pushed.	– Eliminate the cause of the emergency stop. – Turn the emergency stop button clockwise to release the emergency stop button.
		Emergency stop button is released.	– Tell the plant electrician. – Examine the wiring. – Do the function test of the safety relay (refer to ► 777).
502	D95K communication shutdown CAN A20	No response from the module D95K.	– Examine the LEDs A1, B1, C1, and C2 on the module D95K (refer to ► 748). – Examine the connection of the CAN bus. Important information: Normally the control system loads the correct software version to D95K. After that the error message disappears automatically. Only if the error message does not disappear, do the steps mentioned above.
		The LED A1 on the module D95K does not comes on.	Examine the voltage supply.
		The LED C2 on the module D95K comes on or flashes.	Examine the CAN connection with the CAN module on the CPU (A30).

504	D95K fault, software version A20	Incorrect software version.	– Replace the control module D95K (<i>refer to ► 890</i>). – Inform the customer service of RIETER Machine Works Ltd. Important information: Normally the control system loads the correct software version to D95K. After that the error message disappears automatically. Only if the error message does not disappear, do the steps mentioned above.
506	D95K fault, PROM checksum A20	Incorrect checksum of the program, and the program is unserviceable.	– Replace the control module D95K (<i>refer to ► 890</i>). – Inform the customer service of RIETER Machine Works Ltd.
508	D95K parameter fault, CAN A20	Defective SRAM component.	– Replace the control module D95K (<i>refer to ► 890</i>). – Inform the customer service of RIETER Machine Works Ltd.
602	Card A% value overshoot B6	Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	– Clean the space below the doffer. – Clean and adjust the tongue. – Adjust the distance from tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, examine the fiber movement at cylinder and doffer.
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Draft in delivery unit is not optimally adapted to the delivery speed.	– Set the draft for the take-off roller and delivery rollers (<i>refer to ► 338</i>). – Do the configuration of the card delivery (<i>refer to ► 277</i>).

		Pressure monitor – An incorrect feedback is sent out.	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
		The delivery unit is dirty.	Clean the delivery unit (<i>refer to ▶ 758</i>).
		The configuration of the A% value is incorrect.	– Examine the shut-off limit values in the data screen 2.2.2.1. – Adjust the shut-off limit A% (<i>refer to ▶ 400</i>).
		Incorrect measurement – Check the value in the field Delivery scanner card B6 in the data screen 4.2.2. – The card sliver is OK, but the limit values are exceeded.	Calibrate the distance measuring device (<i>refer to ▶ 358</i>).
604	Card CV value overshoot B6	Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer	– Clean the space below the doffer. – Clean and adjust the tongue. – Adjust the distance from tongue to the cylinder (<i>refer to ▶ 330</i>). – At re-commissioning, examine the fiber movement at cylinder and doffer.
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ▶ 781</i>). – Grind the doffer.
		Draft in delivery unit is not optimally adapted to the delivery unit.	– Set the draft for the take-off roller and delivery rollers (<i>refer to ▶ 338</i>). – Do the configuration of the card delivery (<i>refer to ▶ 277</i>).
		Pressure monitor – An incorrect feedback is send out.	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).

		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
		The delivery unit is dirty.	Clean the delivery unit (<i>refer to ▶ 758</i>).
		The configuration of the CV% value is incorrect.	– Examine the shut-off limit values in the data screen 2.2.2.2. – Adjust the shut-off limit CV% (<i>refer to ▶ 401</i>).
		Incorrect measurement – Check the value in the field Delivery scanner card B6 in the data screen 4.2.2. – The card sliver is OK, but the limit values are exceeded.	Calibrate the distance measuring device (<i>refer to ▶ 358</i>).
606	Card spectrogram overshoot B6	Clothing	If the clothing is dull, – Grind clothing. – Remove the licker-in unit (<i>refer to ▶ 839</i>). – Prepare the cylinder for grinding operation (<i>refer to</i>). – Start the card flat for grinding operation (<i>refer to ▶ 786</i>).
			If the clothing is worn or damaged, – Replace the clothing. – Replace the cylinder clothing (<i>refer to</i>).
			If the clothing is not suitable for the current application. – Use the suitable clothing.
		Bearing damage or mechanical components are damaged.	– If the parts rotating out of the round, replace the parts. – If the toothed belts running with noise, apply correctly tension to the toothed belts. – Replace the toothed belts if necessary.
		Damaged technology components or guide elements caused an uneven material flow.	Replace the damaged parts.

		Tension drafts are not optimally adjusted.	If material accumulates between two elements and when the accumulated mass is large enough to form a slub. – Increase tension incrementally until material no longer accumulates. If the material is tensioned tightly and is irregularly drafted. – Decrease tension until the material accumulates, then increase the tension a little bit. Objective: Lowest possible tension, without material accumulation.
		Incorrect correction factor	Examine the correction factor in the data screen 2.2.2.3.
614	Card, slubs exceeded B6	Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	– Clean the space under the doffer. – Clean and adjust the tongue. – Adjust the distance from tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, examine the fiber movement at cylinder and doffer.
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are full.
		Draft in delivery unit is not optimally adapted to the delivery speed.	– Set the draft for the take-off roller and delivery rollers (<i>refer to ► 338</i>). – Do the configuration of the card delivery (<i>refer to ► 277</i>).
		Pressure monitor – An incorrect feedback is sent out.	– Remove and clean the pressure line. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).

		The delivery unit is dirty.	Clean the delivery unit (<i>refer to ► 758</i>).
		The configuration of the A% value is incorrect.	– Examine the shut-off limit values in the data screen 2.2.2.1. – Adjust the shut-off limit A% (<i>refer to ► 400</i>).
		Incorrect measurement – Check the value in the field Delivery scanner card B6 in the data screen 4.2.2. – The card sliver is OK, but the limit values are exceeded.	Calibrate the distance measuring device (<i>refer to ► 358</i>).
654	Slide carrier to end position B9	Carriage is not in the end position when the main switch is set to the position ON.	Push the carriage into the end position manually.
		The function of the magnet switch is not correct.	– Examine the magnetic switch. – Adjust the magnetic switch for the can trolley drive (<i>refer to ► 391</i>).
658	Carrier malfunction B9 B10	Drive belt is damaged. – Carriage can be pushed back and forth without resistance.	Replace the drive belt for the can trolley (<i>refer to ► 903</i>).
		Carriage does not move freely.	Examine and adjust the carriage guide.
		Rear magnetic switch is incorrectly adjusted.	Set the magnetic switch B9 (<i>refer to ► 391</i>).
		Front magnetic switch incorrectly adjusted.	Set the magnetic switch B10 (<i>refer to ► 391</i>).
		The function of the magnet switch is not correct.	– Examine the magnetic switch. – Adjust the magnetic switch for the can trolley drive (<i>refer to ► 391</i>).
		Throttles are not correctly adjusted. Therefore, the movement speed is not correct.	Throttle the speed of the can carriage (<i>refer to ► 385</i>). Additional information: The user needs to be aware that the fast movement of can carriage leads to a higher wear on the drive belt.
660	Empty can missing S11	No empty cans are available.	Put in an empty can.

662	Coiler motor overheated M1	Mechanical reasons	Make sure that the coiler drive is turning easily.
664	Prod. can missing, rod switch fault S11	No can is in the can changer.	– Put in an empty can. – Tap the can change key to change the can correctly. – If the fault occurs frequently during the can change, adjust the speed for manual can change (<i>refer to</i> ▶ 275).
		Rod switch does not function. The spare can is at the carrier, but the rod switch cannot detect the can.	Examine the function of the rod switch.
666	Rod sw.or carrier drive belt defect S11	Rod switch does not function. The spare can is at the carrier, but the rod switch cannot detect the can.	Examine the function of the rod switch.
		The drive belt for the trolley is torn.	Replace the drive belt for the can trolley (<i>refer to</i> ▶ 903).
668	Fault, sliver separation B13	The locking rod is jammed.	Adjust the sliver cutting operation (<i>refer to</i> ▶ 371).
		Wrong wiring	Examine and repair the wiring.
670	Fault, sliver separation B13	The locking rod is jammed.	Adjust the sliver cutting operation (<i>refer to</i> ▶ 371).
		Wrong wiring	Examine and repair the wiring.
702	Can changer not home position B61	The carrier is not in the home position when the machine is switched on with the main switch	– Execute the can changer procedure in data screen 4.2.6.5 to make the carrier move to the home position.
		The sensor does not work correctly.	– Check the sensor. – Adjust the sensor (<i>refer to</i> ▶ 393).
704	Position lever left coiler open B62	The position lever on the left side is open but it should be closed during start-up of the machine.	– Check if the air tube is connected to the correct connection. – Disconnect the air tube of the pneumatic cylinder, move the position lever by hand to check the mechanical movement. – Check the pneumatic cylinder of the position lever. – Check the valve block.

		The sensor B62 does not work correctly.	– Check the sensor. – Adjust the sensor (<i>refer to ► 388</i>).
706	Position lever right coiler open B63	The position lever on the right side is open but it should be closed during start-up of the machine.	– Check if the air tube is connected to the correct connection. – Disconnect the air tube of the pneumatic cylinder, move the position lever by hand to check the mechanical movement. – Check the pneumatic cylinder of the position lever. – Check the valve block.
		The sensor B63 does not work correctly.	– Check the sensor. – Adjust the sensor (<i>refer to ► 388</i>).
708	Can changer pos.malfunction B65 B64 B61	The carrier is not at the end, front, or home position in the designated time.	Execute the can changer procedure in data screen 4.2.6.5 to check if the carrier can move correctly.
		One of the sensors does not work correctly.	– Check the sensor. – Adjust the sensor (<i>refer to ► 393</i>).
710	Coiler position levers left not open B62	The position lever on the left side is not open when it should be open.	If the position lever is really not open, – Check if the air tube is connected to the correct connection. – Disconnect the air tube of the pneumatic cylinder, move the position lever by hand to check the mechanical movement. – Check the pneumatic cylinder of the position lever. – Check the valve block.
		The sensor does not work correctly.	If the position lever is open, check the sensor.
712	Coiler position levers right not open B63	The position lever on the right side is not open when it should be open.	If the position lever is really not open, – Check if the air tube is connected to the correct connection. – Disconnect the air tube of the pneumatic cylinder, move the position lever by hand to check the mechanical movement. – Check the pneumatic cylinder of the position lever. – Check the valve block.

		The sensor does not work correctly.	If the position lever is open, check the sensor.
714	Coiler position lever left not closed B62	Position lever is not closed when it should be closed.	If the position lever is really not closed, – Check if the air tube is connected to the correct connection. – Disconnect the air tube of the pneumatic cylinder, move the position lever by hand to check the mechanical movement. – Check the pneumatic cylinder of the position lever. – Check the valve block.
		The sensor does not work correctly.	If the position lever is closed, check the sensor.
716	Coiler position lever right not closed B63	Position lever is not closed when it should be closed.	If the position lever is really not closed, – Check if the air tube is connected to the correct connection. – Disconnect the air tube of the pneumatic cylinder, move the position lever by hand to check the mechanical movement. – Check the pneumatic cylinder of the position lever. – Check the valve block.
		The sensor does not work correctly.	If the position lever is closed, check the sensor.
718	Production can missing, sensor empty can B66	No can in the can changer.	– Execute a correct can change. – Change the can (touch the button on the overview screen).
720	Empty can missing B66	No empty can is available.	Put an empty can.
722	MPS coiler Q65 Q60	Motor protection switch	If the motor protection switch has tripped (one time). – Make the analysis of the mechanical reason. If the motor protection switch trips recurrently even if the drive is mechanically in order. – Replace the motor protection switch.

		Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
724	MPS coiler on Q65 Q60	Motor protection switches are still switched on.	– Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off
2902	Delivery motor, max. speed reached M12	Drive belt	If the drive belt is insufficiently tensioned, – Tension the drive belt. – Examine and tension toothed belts. If the drive belt is worn. – Replace the drive belt.
		The delivery speed detection module does not work properly.	If the setting is incorrect, – Adjust the proximity switch for delivery speed (<i>refer to ► 101</i>).
		The proximity switch	If the function impaired. – Examine the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.
2904	Delivery motor, min. speed reached M12	Drive belt	If the drive belt is insufficiently tensioned, – Tension the drive belt. – Examine and tension toothed belts. If the drive belt is worn. – Replace the drive belt.
		The delivery speed detection module does not work properly.	If the setting is incorrect, – Adjust the proximity switch for delivery speed (<i>refer to ► 101</i>).
		The proximity switch	If the function impaired. – Examine the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.
2906	Card feed roll, max. speed reached M10	Batt is too light.	Adjust the batt weight (<i>refer to ► 288</i>). If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).

			If the target pressure is too low, due to high material separation and low material density. – Examine the batt weight (<i>refer to ▶ 288</i>).
		Poor bat feed – Batt feed is not uniform.	Make the analysis of the pressure monitor.
		Pressure monitor – An incorrect feedback is sent out.	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
		Measuring device of the feed plate at the lick-in. – Check the value in the field Feed scanner card B5 in the data screen 4.2.2.	If the value is not in the target range. (Range of signal feed without material is 730 -770. The standard setting is 750.) – Adjust the sensor of the feed plate at lick-in unit (<i>refer to ▶ 93</i>). If the measuring device is defective. – Replace the measuring device of the feed plate.
2908	Batt feeder lap too light B5	Batt is too light.	Adjust the batt weight (<i>refer to ▶ 288</i>).
			If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
			If the target pressure is too low, due to high material separation and low material density. – Examine the batt weight (<i>refer to ▶ 288</i>).
		Compression fan Fan, channel, or mesh wall is clogged.	Examine and clean the fan, channel, or mesh wall.
		Measuring device of the feed plate at the lick-in is set poorly.	Adjust the sensor of the feed plate at lick-in unit (<i>refer to ▶ 93</i>).
		Feed trough in chute	If the load of the feed trough is not correct. – Adjust the feed trough load (<i>refer to ▶ 290</i>).
			If the feed trough in chute is jammed. – Adjust the feed trough for a minimum distance (<i>refer to ▶ 289</i>).

2910	Batt feeder lap too heavy B5	The batt is too heavy.	Adjust the batt weight (<i>refer to ► 288</i>). If the chute is overfilled. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
		Measuring device of the feed plate at the lick-in is set poorly.	Adjust the sensor of the feed plate at lick-in unit (<i>refer to ► 93</i>).
		Feed trough in chute	If the load of the feed trough is not correct. – Adjust the feed trough load (<i>refer to ► 290</i>).
			If the feed trough in chute is jammed. – Adjust the feed trough for a minimum distance (<i>refer to ► 289</i>).
2912	Sliver weight too light B6	Draft – For disk rollers with a width of 9 mm, the sliver weight is lighter than 3.4 ktex. – For disk rollers with a width of 15 mm, the sliver weight is lighter than 6.0 ktex.	Examine and correct the sliver weight (<i>refer to ► 278</i>).
		Draft – Correction factor capacity is reached. – Correction factor: 0.5 – 1.5	– Examine the target sliver weight. – Set the sliver weight in the data screen 2.1.1.
		Sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ► 337</i>).
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Suction unit Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.

2914	Sliver weight too light B6	Draft - For disk rollers with a width of 9 mm, the sliver weight is lighter than 3.4 ktex. - For disk rollers with a width of 15 mm, the sliver weight is lighter than 6.0 ktex.	Examine and correct the sliver weight (<i>refer to ► 278</i>).
		Draft - Correction factor capacity is reached. - Correction factor: 0.5 – 1.5	- Examine the target sliver weight. - Set the sliver weight in the data screen 2.1.1.
		Sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ► 337</i>).
		Web - The web falls off the doffer. - The web is removed.	- Examine the doffer status. - Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). - Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Suction unit Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.
2916	Sliver weight too heavy B6	Draft Sliver weight is heavier than 15 ktex.	Examine and correct the sliver weight (<i>refer to ► 278</i>).
		Draft - The correction factor capacity is reached. - Correction factor: 0.5 – 1.5	- Examine the target sliver weight. - Set the sliver weight in the data screen 2.1.1.
		Sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ► 337</i>).
		Measuring device in the delivery unit	If the measured value remains too long in the low limit area. Calibrate the distance measuring device (<i>refer to ► 358</i>).

2918	Scanner sliver, min. level cntrl. B6	Draft – Card sliver is too light. – Card sliver is too heavy.	Reset the delay of the autolever (<i>refer to ► 277</i>).
		The sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ► 337</i>).
		Measuring device in the delivery unit	If the measured value remains too long in the low limit area. – Calibrate the distance measuring device (<i>refer to ► 358</i>).
2920	Scanner sliver, max. level cntrl. B6	Draft – Card sliver is too light. – Card sliver is too heavy.	Reset the delay of the autolever (<i>refer to ► 277</i>).
		The sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ► 337</i>).
		Measuring device in the delivery unit	If the measured value remains too long in the low limit area. – Calibrate the distance measuring device (<i>refer to ► 358</i>).
2922	Controll. sliv. wght. under-compens.	Suction unit – Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.
		Web – The web falls off the doffer. – The web is extracted.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		The measuring device in the feed unit is set poorly.	Adjust the sensor of the feed plate at licker-in unit (<i>refer to ► 93</i>).
		The delay of the autoleveler is incorrect.	Reset the delay of the autoleveler (<i>refer to ► 277</i>).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
2924	Controll. sliv. wght. over-compens.	Suction unit – Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.

		Web – The web falls off the doffer. – The web is extracted.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		The measuring device in the feed unit is set poorly.	Adjust the sensor of the feed plate at licker-in unit (<i>refer to ► 93</i>).
		The delay of the autoleveler is incorrect.	Reset the delay of the autoleveler (<i>refer to ► 277</i>).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
2926	Coiler motor max. r.p.m. reached M1	Motor - coiler – Speed is too high.	– Slightly lower the selected production, i.e. delivery speed. – Enter the production (<i>refer to ► 268</i>). – Check, clean and tension the slip of the drive belt – motor M12. – Set the machine type (<i>refer to ► 207</i>).
2928	Coiler motor min. r.p.m. reached M1	Motor - coiler – Speed is too low.	– Examine the motor M12. – Set the machine type (<i>refer to ► 207</i>).
2934	Doffer motor has reached max. speed M11	The draft in delivery unit is too high.	If the target rotational speed of the doffer motor is too high. – Lower the draft in delivery unit. – Set the draft for the take-off roller and the delivery roller (<i>refer to ► 338</i>).
		The delivery speed is too high.	– Reduce the delivery speed. – Enter the production (<i>refer to ► 268</i>).
2936	Doffer motor speed too slow M11	The draft in delivery unit is too low.	If the target rotational speed of the doffer motor is too low. – Increase the draft in the delivery unit. – Set the draft for the take-off roller and the delivery roller (<i>refer to ► 338</i>).
		The delivery speed in creep speed is too low.	Select the data screen 2.3.1.5, in the field Speed creep speed: increase the speed. (Delivery speed, slow: 15m/min)

2938	Doffer blocked B4	No web or incomplete web on the delivery unit.	If material remains on the clothing, – Check the cause at the tongue.
		Determining the material flow – Check cylinder, doffer and take off roller, to determine whether fibres are accumulating.	If material remains on the cylinder, – Check the cause at the cylinder clothing.
		Tongue – The material is blocked below the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	If material remains on the doffer, – Check the cause at the doffer. – Clean the space below the doffer. – Clean the tongue. – Adjust the distance from the tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, examine the fibre movement of the cylinder to the doffer.
		Cylinder clothing – Cylinder clothing is not suitable. – No transfer to doffers.	– Select the cylinder clothing type again. – Put the suitable clothing to cylinder.
		Delivery unit – Fleece remains on doffer. Rolls of fibres are formed.	If the distance between the take-off roller and the doffer is too large, – Adjust the take-off roller (<i>refer to ► 346</i>). If the web bridge is too close to the doffer. – Adjust the web bridge (<i>refer to ► 348</i>).
		Take off roller pulls web up to the clearer roller – Draft VA3 is too small.	– Increase the draft. – Set the draft for the delivery rollers and the take-off roller (<i>refer to ► 338</i>). – Set the card delivery (<i>refer to ► 277</i>).
		Delivery unit does not run freely.	– Examine the delivery unit for easy movement and material deposited in the delivery area.
		Belt drives – Drive belt excessive slip	– Examine the belt for contamination. – Examine the belt tension. – Examine the tension of the toothed belts.
		Doffer speed detection does not function correctly.	– Adjust the proximity switch for the doffer (<i>refer to ► 100</i>). – Examine and repair the wiring.

			If the setting is correct, – Replace the proximity switch. If the proximity switch is correct, – Check the wiring. If the wiring is correct, – Check the D95K module.
		The module A 20 (D95K) is defective.	– Replace the control module D95K (<i>refer to ► 890</i>).
		Causes are eliminated – Recommissioning	– Clean the web bridge (<i>refer to ► 756</i>). – In the data screen 2.3.1.5, in the field Compensation fibre tuft:, set the compensation. – Adjust the sliver weight at creep speed (<i>refer to ► 337</i>).
2940	MPS doffer/delivery Q12	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason. Motor protection switch trips recurrently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
2944	MPS doffer/delivery on Q12	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
2948	MPS card feed roll/clean.brush Q10 Q14	Motor protection switch – Motor protection switch has tripped (once).	Make analysis of the mechanical reason.
		Motor protection switch – Motor protection switch trips recurrently even if the drive is mechanically in order.	Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that does not move easily.

2952	MPS card f.roll/ clean.br. on Q10 Q14	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
2954	Delivery speed too high B3	Drive belt	If the drive belt is insufficiently tensioned. – Tension the drive belt. – Examine and tension the toothed belts. If the drive belt is worn. – Replace the drive belt.
		The delivery speed detection module does not work properly.	If the setting is incorrect, – Adjust the proximity switch for delivery speed (<i>refer to ► 101</i>).
		Proximity switch	If the function impaired. – Examine the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.
2956	Delivery speed too low B3	Drive belt	If the drive belt is insufficiently tensioned, – Tension the drive belt. – Examine and tension toothed belts. If the drive belt is worn. Replace the drive belt.
		The delivery speed detection module does not work properly.	If the setting is incorrect, – Adjust the proximity switch for delivery speed (<i>refer to ► 101</i>).
		The proximity switch	If the function impaired. – Examine the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.
2958	Doffer rotating speed too low B4	No web or incomplete web on the delivery unit – Determine the material flow. – Check cylinder, doffer and take-off roller, to determine whether fibers are accumulating in the clothing.	If the material remains on the clothing. – Make the analysis of tongue. If the material remains on the cylinder. – Make the analysis of cylinder clothing. If the material remains on the doffer. – Make the analysis of doffer.

		Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	– Clean the space below the doffer. – Clean and adjust the tongue. – Adjust the distance from the tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, check the fiber transfer from cylinder to doffer.
		Cylinder clothing – Cylinder clothing is not suitable for the current application. – No transfer to doffer	– Select the cylinder clothing type again. – Install the suitable cylinder clothing.
		Doffer – Fleece remains on doffer. – Rolls of fibers are formed.	If the distance between the take-off roller and the doffer is too large. – Adjust the take-off roller (<i>refer to ► 346</i>). If the web bridge is too close to the doffer. – Adjust the web bridge (<i>refer to ► 348</i>).
		Take-off roller pulls web up to the clearer roller. – Draft VA3 is too small.	– Increase draft. – Set the draft for the delivery rollers and the take-off roller (<i>refer to ► 338</i>). – Set the card delivery (<i>refer to ► 277</i>).
		Delivery unit does not operate freely.	Examine the delivery unit for easy movement and material deposited in the delivery area.
		Belt drives – Drive belt slips frequently.	– Examine the belt for contamination. – Examine the belt tension. – Examine and tighten the toothed belts.
		Doffer speed detection does not function correctly. – Adjust the proximity switch for the doffer speed (<i>refer to ► 100</i>).	If the setting is correct. – Replace the proximity switch. If the proximity switch is correct. – Examine the wiring. If the wiring the correct. – Make the analysis of the module A 20 (D95K).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).

		Causes are eliminated. – Recommissioning	– Clean the web bridge (<i>refer to ► 756</i>). – In the data screen 2.3.1.5, in the field Compensation fibre tuft, set the compensation. – Adjust the sliver weight at low speed (<i>refer to ► 337</i>).
2960	Feed roll, foreign body B5	Measuring device in the feed – Foreign objects are between the feed trough and feed roller.	– Reverse the feed roller at licker-in unit. – Remove the unwanted objects. – Check feed trough.
		Measuring device in the feed – Select the data screen 4.2.2. – In the line Feed scanner card B5 read the value.	If the value is outside of the target range Signal feed without material: 730 – 770 (standard setting: 750). – Adjust the sensor in the feed unit (<i>refer to ► 93</i>). If the measuring device is set correctly. – Replace the measuring device in the feed unit.
		The delay of the autoleveler is wrong.	Set the delay of the autoleveler (<i>refer to ► 277</i>).
2962	Scanner batt cable breakage B5	No signal from the measuring device of the feed trough	If the cable break on the measuring device. – Repair the wiring. – Examine the measuring device for function. If the function is correct. – Make the analysis of the measuring device in the feed.
		Measuring device in the feed – The measuring device is set incorrectly.	Adjust the sensor in the feed (<i>refer to ► 93</i>).
		Sliver weight at creep speed	Adjust the sliver weight at creep speed (<i>refer to ► 337</i>).
2964	Scanner sliver, cable breakage B6	No signal from the measuring device in the delivery unit	If the current loop of the measuring device in the delivery unit is interrupted. – Repair the wiring. – Examine the measuring device for function.

			If the measuring device is set incorrectly. – Examine the measuring device of the autoleveler in the delivery unit. If the measuring device is set correctly. – Make the analysis of the module A 20 (D95K).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
2966	MPS coiler Q60	Motor protection switch	If the motor protection switch has tripped (one time). – Make the analysis of the mechanical reason. If the motor protection switch trips recurrently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
2968	MPS coiler on Q60	Motor protection switches are still switched on.	– Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
2970	Error, card configuration (3.3.3)	Configuration – In the data screen 3.3.3 and 3.3.4, determine the configuration.	If the incorrect type is configured. – Configure the machine type (<i>refer to ► 207</i>). If incorrect type of coiler is selected – Configure the type of coiler (<i>refer to ► 209</i>).
		Drives Wrong reduction ratio	Examine the pulleys M12/M11 (<i>refer to ► 247</i>).
		Belt drives The drive belt slips frequently.	– Examine the belt for contamination. – Examine the belt tension. – Examine and tighten the toothed belt.
2980	Material transport, cylinder/delivery	Doffer clothing – Examine the doffer clothing with the clothing magnifying glass.	If the clothing is dirty. – Clean the doffer (<i>refer to ► 761</i>).

			If the doffer clothing is dull and can still be ground. – Grind the doffer. – Prepare the doffer for grinding (<i>refer to ► 820</i>).
			If the doffer clothing is dull and the clothing is already worn. – Re-clothe doffers.
			If the doffer clothing is sharp. – No measures are necessary.
		No web or incomplete web on the delivery unit	If material remains on the clothing. – Make analysis of the tongue.
		– Determine the material flow. – Check cylinder, doffer and take-off roller, to determine whether fibers are accumulating in the clothing.	If the material remains on the cylinder. – Make analysis of the cylinder clothing.
			If material remains on the doffer. – Make analysis of the doffer.
		Tongue	– Clean the space under the doffer. – Clean and adjust the tongue. – Adjust the distance from the tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, check the fiber transfer from cylinder to doffer.
		– Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	
		Cylinder clothing	– Select the cylinder clothing type again. – Install the suitable cylinder clothing.
		– The cylinder clothing is not suitable for the current application. – No transfer to doffers.	
		Doffer	If the distance between the take-off roller and the doffer is too large. – Adjust the take-off roller (<i>refer to ► 346</i>).
		– Fleece remains on doffer. – Rolls of fibers are formed.	If the web bridge is too close to the doffer. – Adjust the web bridge (<i>refer to ► 348</i>).

		The take-off roller pulls web up to the clearer roller.	If draft VA3 is too small. – Increase the draft. – Set the draft for the take-off roller and the delivery roller (<i>refer to</i> ▶ 338). – Set the card delivery (<i>refer to</i> ▶ 277).
		The delivery unit does not operate freely.	Examine the delivery unit for ease of movement and jammed material in the delivery area.
		Belt drives – The drive belt is slippery.	– Examine the belt for contamination. – Examine the belt tension. – Examine and tension the toothed belt.
		The doffer speed detection does not function correctly.	Adjust the proximity switch of doffer (<i>refer to</i> ▶ 100).
			If the setting of the doffer speed detection is correct. – Replace the proximity switch.
			If the proximity switch is correct. – Examine the wiring.
			If the wiring is correct. – Make analysis of module A 20 (D95K).
2982	Cylinder: Layer of material too high	The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to</i> ▶ 890).
		Causes are eliminated. – Recommissioning	– Clean the web bridge (<i>refer to</i> ▶ 756). – Set the compensation in the field Compensation fibre tuft: in the data screen 2.3.1.5. – Adjust the sliver weight in creep speed (<i>refer to</i> ▶ 337).
		Doffer clothing – Examine the doffer clothing with the clothing magnifying glass.	If the clothing is dirty. – Clean the doffer (<i>refer to</i> ▶ 761).
			If the doffer clothing is dull and can still be ground. – Grind the doffer. Prepare the doffer for grinding (<i>refer to</i> ▶ 820).

			If the doffer clothing is dull and the clothing is already worn. – Re-clothe doffers.
			If the doffer clothing is sharp. – No measures are necessary.
		No web or incomplete web on the delivery unit	If material remains on the clothing. – Make analysis of the tongue.
		– Determine the material flow. – Check cylinder, doffer and take-off roller, to determine whether fibers are accumulating in the clothing.	If the material remains on the cylinder. Make analysis of the cylinder clothing.
			If material remains on the doffer. Make analysis of the doffer.
		Tongue	– Clean the space under the doffer. – Clean and adjust the tongue. – Adjust the distance from the tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, check the fiber transfer from cylinder to doffer.
		– Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	
		Cylinder clothing	– Select the cylinder clothing type again. – Install the suitable cylinder clothing.
		– The cylinder clothing is not suitable for the current application. – No transfer to doffers.	
		Doffer	If the distance between the take-off roller and the doffer is too large. – Adjust the take-off roller (<i>refer to ► 346</i>).
		– Fleece remains on doffer. – Rolls of fibers are formed.	If the web bridge is too close to the doffer. – Adjust the web bridge (<i>refer to ► 348</i>).
		The take-off roller pulls web up to the clearer roller.	If draft VA3 is too small. – Increase the draft. – Set the draft for the take-off roller and the delivery roller (<i>refer to ► 338</i>). – Set the card delivery (<i>refer to ► 277</i>).

		The delivery unit does not operate freely.	Examine the delivery unit for ease of movement and jammed material in the delivery area.
		Belt drives – The drive belt is slippery.	– Examine the belt for contamination. – Examine the belt tension. – Examine and tension the toothed belt.
		The doffer speed detection does not function correctly.	Adjust the proximity switch of doffer (<i>refer to ► 100</i>).
			If the setting of the doffer speed detection is correct. – Replace the proximity switch.
			If the proximity switch is correct. – Examine the wiring.
			If the wiring is correct. – Make analysis of module A 20 (D95K).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
		Causes are eliminated. – Recommissioning	– Clean the web bridge (<i>refer to ► 756</i>). – Set the compensation in the field Compensation fibre tuft: in the data screen 2.3.1.5. – Adjust the sliver weight in creep speed (<i>refer to ► 337</i>).
3054	Infeed channel card open B23	At the beginning of the production, the pressure in the infeed channel does not increase when the fan is running.	– Close the infeed channel and make sure it is closed firmly and tight so that no air can escape (<i>refer to ► 298</i>). – Check if the hose from the infeed channel to the pressure sensor is plugged in. – Make sure that there is no blockage by fibers or waste in the hose or at the inlet filter. – Check the pressure monitor sensor (<i>refer to ► 89</i>).

3056	Chute, pressure meas., broken cable, B23	Pressure sensor B23 in the chute	If no signal comes from the pressure sensor B23. – Examine the wiring, if cable break is on the pressure sensor. – Examine the connector in the pressure sensor. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>). If the wiring of the pressure sensor is OK. – Examine the pressure sensor for function. If the function of the pressure sensor is OK. – Calibrate the pressure monitoring sensor (<i>refer to ► 89</i>). – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
		Motor protection switch has tripped (once).	Make analysis of mechanical reason.
		Motor protection switch trips recurrently even if the drive is mechanically in order.	Replace the motor protection switch.
3058	MPS chute drives Q42, Q43	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3060	MPS chute drives on Q42 Q43	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
3062	Chute is empty B23	The batt is too light.	If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
			If the target pressure is too low due to high material separation and low material density. – Examine the batt weight (<i>refer to ► 288</i>).

		Switch on/switch off time of the feed	If the feed machine switches off too late. – Increase the differential pressure in the feed channel. Additional information: Material will be fed in earlier. – Adjust the fill height in the feed chute (<i>refer to ► 283</i>). If the differential pressure in the feed channel has been increased, but there is no feed. – Clean the hose and pressure port. – Examine jumper in pressure sensor. – Calibrate the pressure monitoring sensor (<i>refer to ► 89</i>).
		Insufficient capacity of the feed machine	If the production is interrupted frequently. – Correct the faults in the blowroom.
			If there are still reserves available. – Increase the capacity of the feed machine.
			If the capacity can't be increased. – Restrict the production of the cards. – Enter the production (<i>refer to ► 268</i>).
3064	Aerofeed no material	The batt is too light.	If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>). If the target pressure is too low due to high material separation and low material density. – Examine the batt weight (<i>refer to ► 288</i>).
		Switch on/switch off time of the feed	If the feed machine switches off too late. – Increase the differential pressure in the feed channel. Additional information: Material will be fed in earlier. – Adjust the fill height in the feed chute (<i>refer to ► 283</i>).

			If the differential pressure in the feed channel has been increased, but there is no feed. – Clean the hose and pressure port. – Examine jumper in pressure sensor. – Calibrate the pressure monitoring sensor (<i>refer to ► 89</i>).
		Insufficient capacity of the feed machine	If the production is interrupted frequently. – Correct the faults in the blowroom. If there are still reserves available. – Increase the capacity of the feed machine. If the capacity can't be increased. – Restrict the production of the cards. – Enter the production (<i>refer to ► 268</i>).
3066	Chute opening roller speed too low B44	Material – A lap has formed.	Remove the material.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
		The rotational speed of the opening roller in the chute is set too low.	– Increase the speed through the pulley (<i>refer to ► 292</i>). – Adjust the speed of the opening roller (<i>refer to ► 292</i>).
		Speed monitor – Check the adjustment of the proximity switch (<i>refer to ► 88</i>).	If the adjustment is not correct. – Set the proximity switch of the opening roller (<i>refer to ► 88</i>). If the adjustment is correct. – Check the proximity switch.
		Proximity switch	If function impaired, – Examine and repair the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.
3068	Chute opening roller blocked B44	Material – A lap has formed.	Remove the material.

		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
		The rotational speed of the opening roller in the chute is set too low.	– Increase the speed through the pulley (<i>refer to ► 292</i>). – Adjust the speed of the opening roller (<i>refer to ► 292</i>).
		Speed monitor – Check the adjustment of the proximity switch (<i>refer to ► 88</i>).	If the adjustment is not correct. – Set the proximity switch of the opening roller (<i>refer to ► 88</i>). If the adjustment is correct. Check the proximity switch.
		Proximity switch	If function impaired, – Examine and repair the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.
3070	Chute opening roller start-up speed B44	Material – A lap has formed.	Remove the material.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
		The rotational speed of the opening roller in the chute is set too low.	– Increase the speed through the pulley (<i>refer to ► 292</i>). – Adjust the speed of the opening roller (<i>refer to ► 292</i>).
		Speed monitor – Check the adjustment of the proximity switch (<i>refer to ► 88</i>).	If the adjustment is not correct. – Set the proximity switch of the opening roller (<i>refer to ► 88</i>). If the adjustment is correct. – Check the proximity switch.
		Proximity switch	If function impaired, – Examine and repair the wiring. If the wiring of the proximity switch is OK, – Replace the proximity switch.

3072	Chute opening roller overheated M42	Drive belts	If the drive belt is insufficiently tensioned. – Tension the drive belt. – Examine and tension the toothed belts. If the drive belt is worn. – Replace the drive belt.
		Material	Remove the material.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3074	Chut open. roller r.p.m. too high B44	Change pulleys	– Wrong combination is used.
		Proximity switch has wrong signal.	Adjust the proximity switch of the opening roller (refer to ► 292).
3076	Chute door open	Doors are open.	– Close the doors and the covers.
		Doors are closed, but the fault still exists.	– Adjust the door lock mechanism and the safety switch (refer to ► 105). – Do a function test of the safety relay (refer to ► 777).
3078	Fan funnel of chute not mounted S43	S43 does not detect the fan funnel.	Install the fan funnel and fix it. Make sure that the yellow switch element on the fan funnel is close to the yellow switch S43.
			If the message is still existing, – Check the wiring and the connector of S43.
			– Replace the sensor S43 if necessary.
3080	MPS chute feed roll Q41	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason. Motor protection switch trips recurrently even if the drive is mechanically in order. Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.

3082	MPS chute feed roll on Q41	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	Motor protection switch trips recurrently even if the drive is mechanically in order. Replace the motor protection switch. – Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3152	MPS cylinder/licker-in Q1 Q13	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	Motor protection switch trips recurrently even if the drive is mechanically in order. Replace the motor protection switch. – Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3154	MPS cylinder/licker-in Q1 Q13	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	Motor protection switch trips recurrently even if the drive is mechanically in order. Replace the motor protection switch. – Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3156	MPS cylinder/licker-in Q1 Q13	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	Motor protection switch trips recurrently even if the drive is mechanically in order. Replace the motor protection switch. – Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.

3158	MPS cylinder/ licker-in on Q1 Q13	Motor protection switch	Motor protection switch has tripped (once). – Make analysis of the mechanical reason. Motor protection switch trips recurrently even if the drive is mechanically in order. Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3160	Cylinder speed above 999 /min B1	Change pulleys – Wrong combination is used.	– Use the correct combination. – Adjust the cylinder speed (<i>refer to ► 269</i>).
		Frequency converter hardware – Tell electrician. – Do a test for the frequency converter (<i>refer to ► 777</i>).	If the frequency converter hardware is incorrect and the test fails. – Replace the frequency converter (<i>refer to ► 892</i>).
3162	Cylinder proximity switch defective B1	Proximity switch	If the proximity switch is incorrectly set. – Adjust the proximity switch for the cylinder (<i>refer to ► 96</i>).
			If the function is impaired. – Examine the wiring.
			If the wiring of the proximity switch is OK. – Replace the proximity switch.
3164	Cylinder speed too high B1	Change pulleys – Wrong combination is used.	– Use the correct combination. – Adjust the cylinder speed (<i>refer to ► 269</i>).
		Frequency converter hardware – Tell electrician. – Do a test for the frequency converter (<i>refer to ► 777</i>).	If the frequency converter hardware is incorrect and the test fails. – Replace the frequency converter (<i>refer to ► 892</i>).
3166	Cylinder speed too low B1	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.

		Cylinder – Determine whether the cylinder can be turned by hand.	If the cylinder is blocked. – Remove the carding elements in the cylinder area (<i>refer to</i> ▶ 324). – Examine the cylinder clothing for contamination and clean the cylinder clothing (<i>refer to</i>). If the cylinder turns freely. – Clean the belt pulley. – Adjust the cylinder belt tension (<i>refer to</i>).
		Setting procedure – Tolerance is set too low.	Configure the speed monitor for the cylinder (<i>refer to</i> ▶ 271).
3168	Cylinder below production speed B1	Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
		Cylinder – Determine whether the cylinder can be turned by hand.	If the cylinder does not turn freely. – Remove the carding elements in the cylinder area (<i>refer to</i>). – Examine the cylinder clothing for contamination and cleaning (<i>refer to</i>). If the cylinder turns freely. – Clean the pulley. – Adjust the cylinder belt tension (<i>refer to</i>).
		Setting procedure The tolerance is set too low.	Configure the speed monitor for the cylinder (<i>refer to</i> ▶ 271).
3170	Cylinder does not start up B1	Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
		Cylinder – Determine whether the cylinder can be turned by hand.	If the cylinder does not turn freely. – Remove the carding elements in the cylinder area (<i>refer to</i>). – Examine the cylinder clothing for contamination and cleaning (<i>refer to</i>). If the cylinder turns freely. – Clean the pulley. – Adjust the cylinder belt tension (<i>refer to</i>).

		Proximity switch	If the proximity switch is not set correctly – Examine the adjustment of the proximity switch (<i>refer to ► 96</i>). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
3172	Cylinder coasting, prox. sw.fault B1	Proximity switch	If the proximity switch is not set correctly – Examine the adjustment of the proximity switch (<i>refer to ► 96</i>). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
		Mains failure	Set the main switch to the position ON, and wait 15 minutes.
3174	Cylinder fails to remain stationary B1	The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
3176	Cylinder not stopped B1	Braking process – Determine whether the cylinder turns.	If the cylinder still turns and does not brake. – Examine the belt drive. – Adjust the cylinder belt tension (<i>refer to</i>). If the cylinder can brake – Make the analysis of the proximity switch.
		Proximity switch	If the proximity switch is not set correctly – Examine the adjustment of the proximity switch (<i>refer to ► 96</i>). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
3178	Draft licker-in/ cylinder too small	Draft of the licker-in to cylinder is less than 1.15.	Adjust the cylinder speed (<i>refer to ► 269</i>).

3180	Cylinder speed not reached B1	Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
		Cylinder – Determine whether the cylinder can be turned by hand.	If the cylinder does not turn freely. – Remove the carding elements in the cylinder area (refer to). – Examine the cylinder clothing for contamination and cleaning (refer to).
			If the cylinder turns freely. – Clean the pulley. – Adjust the cylinder belt tension (refer to).
		Setting procedure The tolerance is set too low.	Configure the speed monitor for the cylinder (refer to ► 271).
3182	Cylinder speed not reached B1	Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
		Cylinder – Determine whether the cylinder can be turned by hand.	If the cylinder does not turn freely. – Remove the carding elements in the cylinder area (refer to). – Examine the cylinder clothing for contamination and cleaning (refer to).
			If the cylinder turns freely. – Clean the pulley. – Adjust the cylinder belt tension (refer to).
		Setting procedure The tolerance is set too low.	Configure the speed monitor for the cylinder (refer to ► 271).
3184	Cylinder motor overheated M1	Mechanical reason Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
		Cylinder – Determine whether the cylinder can be turned by hand.	If the cylinder does not turn freely. – Remove the carding elements in the cylinder area (refer to). – Examine the cylinder clothing for contamination and cleaning (refer to).

			If the cylinder turns freely. – Clean the pulley. – Adjust the cylinder belt tension (refer to).
		The motor is damaged. Motor consumes too much current.	Replace the motor.
3186	Licker-in proximity switch defect. B9	Proximity switch	If the proximity switch is not set correctly. – Adjust the proximity switch for the licker-in (refer to ► 93). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
3188	Licker-in rot. speed not reached B9	Proximity switch	If the proximity switch is not set correctly. – Adjust the proximity switch for the licker-in (refer to ► 93). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
3190	Licker-in rotating speed too low B9	Proximity switch	If the proximity switch is not set correctly. – Adjust the proximity switch for the licker-in (refer to ► 93). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
3192	Licker-in blocked B9	Proximity switch	If the proximity switch is not set correctly. – Adjust the proximity switch for the licker-in (refer to ► 93). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.

3194	Licker-in rotating speed too high B9	Proximity switch	If the proximity switch is not set correctly. – Adjust the proximity switch for the licker-in (<i>refer to ► 93</i>). If the proximity switch function is impaired. – Examine the wiring. If the wiring is OK. – Replace the proximity switch.
3196	Malfunction suction licker-in S9	Filter system is not running. Vacuum pressure – Adjust the vacuum pressure for the card suction (<i>refer to ► 103</i>). Suction unit: Clogging in the suction unit. Insufficient airflow rate at the suction point, although the suction unit has enough suction. Piping is too small or too long.	Put the filter system in service again. If the vacuum is correct. – Adjust the vacuum monitoring (<i>refer to ► 103</i>). If the vacuum pressure is insufficient. – Make the analysis of the suction unit. Remove the clogging in the channels. Increase the pipe cross-section.
3198	Low suction B12	Filter system is not running. Vacuum pressure – Adjust the vacuum pressure for the card suction (<i>refer to</i>). Suction unit: Clogging in the suction unit. Insufficient airflow rate at the suction point, although the suction unit has enough suction. Piping is too small or too long.	Put the filter system in service again. If the vacuum is correct. – Adjust the vacuum monitoring (<i>refer to ► 103</i>). If the vacuum pressure is insufficient. – Make the analysis of the suction unit. Remove the clogging in the channels. Increase the pipe cross-section.
3204	Licker-in lift.cylinder cable break D13	Cable breakage – Check the connection between lift cylinder and module A20.	If the connection is interrupted. – Install a cable connection.

3206	Congestion, flat cleaning B11	Light barrier – Check the LED.	If the LED is continuously illuminated. – Adjust the suction channel monitor. – Increase the delay time in the data screen 2.3.1.7.
			If the LED is never illuminated. – Make the analysis of the flat disposal chamber.
			If the fault happens frequently even though the clogging is not really present. – Extend the delay time. – Set the delay time (<i>refer to ► 901</i>).
		Flat disposal chamber: The flat disposal chamber is clogged.	Clean the suction channel (<i>refer to ► 765</i>).
		Suction unit: Clogging in the suction unit. Insufficient airflow rate at the suction point, although the suction unit has enough suction.	Remove the clogging in the channels.
3208	Flat alignment faulty B8	Toothed belt – flat drive – Check whether the card flats run offset left and right.	If the card flats run offset. – Loosen the belt and lock the toothed belt to align left and right. – Apply tension to the card flat belt (<i>refer to ► 859</i>).
			If the card flats run mechanically correct. – Adjust the proximity switches for the card flats (<i>refer to ► 97</i>).
3210	Flat standstill B2	Mechanical features – Determine the cause for the standstill. – If no apparent cause can be identified, carefully drive the card flats for a short distance in reverse. – Drive the card flats in reverse (<i>refer to ► 333</i>).	If there is contamination in the area of the card flats. – Examine the deflection pulleys of the deflection unit of the card flat (<i>refer to ► 856</i>). – Clean the card flat heads (<i>refer to ► 769</i>).
			If the card flats are loose or jammed. – Tighten the card flats correctly. – Install the card flats (<i>refer to ► 793</i>).

		Drive unit Slip clutch slips through, although the mechanism of the card flat is not blocked.	Activate the card flats drive in the data screen 4.2.5.6 (<i>refer to</i> ▶ 231). – If the drive works but the card flats do not move, replace the motor.
		Lubrication – Check lubrication of the running surface.	If the lubricant is used up. – Replace the lubricating blocks of the card flats (<i>refer to</i> ▶ 879).
		Proximity switch	If the proximity switch is not set correctly. – Adjust the proximity switch for the card flats (<i>refer to</i> ▶ 97).
			If the proximity switch function is impaired. – Examine the wiring.
			If the wiring is OK. – Replace the proximity switch.
3212	Configuration fixed flats X1.3 A31	Configuration – In the data screen 3.3.3, determine the configuration.	Configure the type of card flats (<i>refer to</i> ▶ 207).
3214	Configuration fixed flats X1.3 A32	Configuration – In the data screen 3.3.3, determine the configuration.	Configure the type of card flats (<i>refer to</i> ▶ 207).
3216	MPS flats drives Q50 Q57	Motor protection switch	If the motor protection switch has tripped (one time). – Make the analysis of the mechanical reason.
			If the motor protection switch trips frequently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
3218	MPS, flats, drives on, Q50, Q57	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.

3220	Flats clear. roller1, contactor forw. K56	The relay does not switch. – Get the services of a qualified electrician. – Check function of the relay.	If the relay is defective. – Replace the relay.
		Frequency converter hardware – Call electrician. – Test the frequency converter (<i>refer to ► 777</i>).	If the relay is OK. – Examine the control signal and wiring.
			If the test is failed – Replace the frequency converter (<i>refer to ► 892</i>).
3222	MPS flats drives Q50	Motor protection switch	If the motor protection switch has tripped (one time). – Make the analysis of the mechanical reason.
			If the motor protection switch trips frequently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
3224	MPS, flats, drives on, Q50	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
3226	MPS, flat clearer roller 2 blocked, Q57	Flat disposal chamber: The flat disposal chamber is clogged.	Clean the suction channel (<i>refer to ► 765</i>).
		Suction unit: Clogging in the suction unit. Insufficient airflow rate at the suction point, although the suction unit has enough suction.	Remove the clogging in the channels.
		Motor protection switch	If the motor protection switch has tripped (one time). – Make the analysis of the mechanical reason.

			If the motor protection switch trips frequently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace the driven parts that do not move easily.
3228	MPS, flat clearer roller 2 active, Q57	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
3230	Licker-in knife drive pos. not reached M29	Within a certain time the licker-in mote knife did not reach the demanded ejection distance.	Try a different ejection distance and observe if the mote knife is moving or not (<i>refer to ► 309</i>). – If the mote knife is not moving, check it for mechanical blockages. And check all connectors at the motor and on the left machine side for good contact. – If the mote knife is moving, set the ejection distance to 70mm and observe if the reference position is reached.
3232	Licker-in knife drive ref. pos. not reached M29	Within a certain time the licker-in mote knife did not reach the reference position. The reference position is the biggest ejection distance.	Try a different ejection distance and observe if the mote knife is moving or not (<i>refer to ► 309</i>). – If the mote knife is not moving, check it for mechanical blockages. And check all connectors at the motor and on the left machine side for good contact. – If the mote knife is moving, check if the sensor for reference position B29 is reached (<i>refer to ► 244</i>).

3234	Licker-in knife drive cable break M29	After receiving the signal from the control system to change the ejection distance, there is no pulses generated from the motor M29.	Try a different ejection distance and observe if the mote knife is moving or not (<i>refer to ► 309</i>). – If the mote knife is not moving, check it for mechanical blockages. And check all connectors at the motor and on the left machine side for good contact. – If the mote knife is moving and all the electrical connections are ok, replace the motor M29.
3302	IGS-cl. proximity sw.position left B52	Mechanical features – Do a function test for IGS-classic (<i>refer to ► 811</i>).	If a mechanical cause in the guide carriage prevents movement. – Clean the guide carriage. – Repair the guide carriage, if necessary. – Replace the guide carriage, if necessary (<i>refer to ► 802</i>).
		Proximity switch.	If the proximity switch is defective. – Examine and repair the wiring. If the wiring of the proximity switch is OK. – Replace the proximity switch.
3304	IGS-cl. proximity sw. position right B51	Mechanical features – Do a function test for IGS-classic (<i>refer to ► 811</i>).	If a mechanical cause in the guide carriage prevents movement. – Clean the guide carriage. – Repair the guide carriage, if necessary. – Replace the guide carriage, if necessary (<i>refer to ► 802</i>).
		Proximity switch.	If the proximity switch is defective. – Examine and repair the wiring. If the wiring of the proximity switch is OK. – Replace the proximity switch.
3306	IGS-classic not in park position B52	Mechanical features – Do a function test for IGS-classic (<i>refer to ► 811</i>).	If a mechanical cause in the guide carriage prevents movement. – Clean the guide carriage. – Repair the guide carriage, if necessary. – Replace the guide carriage, if necessary (<i>refer to ► 802</i>).

		Proximity switch.	If the proximity switch is defective. – Examine and repair the wiring. If the wiring of the proximity switch is OK. – Replace the proximity switch.
3308	IGS-classic not in park position B52	Mechanical features – Do a function test for IGS-classic (<i>refer to ► 811</i>).	If a mechanical cause in the guide carriage prevents movement. – Clean the guide carriage. – Repair the guide carriage, if necessary. – Replace the guide carriage, if necessary (<i>refer to ► 802</i>).
		Proximity switch.	If the proximity switch is defective. – Examine and repair the wiring. If the wiring of the proximity switch is OK. – Replace the proximity switch.
3310	IGS-classic grindstone position S53	Electromagnet – Check the voltage on the electromagnet.	If the voltage is present and electromagnet does not raise grindstone. – Replace the electric magnet (<i>refer to ► 797</i>). – Adjust the height of the grinding stone (<i>refer to ► 809</i>).
3312	IGS-classic motor fails to start M51	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
		Motor damaged	Replace the motor.
		– Motor consumes too much current.	
		Pneumatic connection is interrupted.	Examine the compressed-air line.
		Air pressure of the supply line is insufficient.	Make sure that the air pressure of supply line is between 7.0 – 8.0 bar.

3352	MPS IGS-top grinding drive Q55	Grinding pressure	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: If the excessive current draw continues, the mechanical basic setting must be increased to 4.5 -5.0. If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: If the grinding pressure is still insufficient, the mechanical basic setting must be reduced from 3.5 -3.0.
		Motor protection switch	If the motor protection switch has tripped (once). – Make analysis of the mechanical reason. If the motor protection switch trips recurrently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
3354	MPS IGS-top grinding drive on Q55	Motor protection switches are still switched on.	Switch off the motor protection switch. Important information: The test of the digital outputs can only be executed when the motor protection switch is switched off.
3356	IGS-top cable breakage, curr. meas. D55	The module A 20 (D95K) is not defective.	– Examine the current converter D 55. – Replace the current converter D 55 if necessary.
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).

3358	IGS-top grinding force too high	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ▶ 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ▶ 816</i>). Additional information: If the excessive current draw continues, the mechanical basic setting must be increased to 4.5 -5.0. If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ▶ 816</i>). Additional information: If the grinding pressure is still insufficient, the mechanical basic setting must be reduced from 3.5 -3.0.
3502	Chute f.roll FC parameter incorrect U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3504	Chute f.roll FC,communicat .shutdown U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3506	Chute f.roll FC CAN node stat. inc. U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3508	Chute f.roll FC mot.overcurrent M41 U41	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.

3510	Chute f.roll FC converter overload U41	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
3512	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3514	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3516	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3518	Chute f.roll FC conv. earth fault U41	Insulation:	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Insulation of the motor:	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.
3520	Chute f.roll FC, unrecognised fault U41	Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3522	Chute f.roll FC phase fail.p.supply U41	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again. If the short circuit occurs in motor, – Replace the motor.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
3524	Chut.f.roll FC interm.circ.over volt.U41	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.

		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
3526	Chu.f.roll FC interm.circ.und ervolt.U41	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
3528	Chute f.roll FC loading cont.faulty U41	Charging contactor – Ask electrician for help.	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.
3530	Chute f.roll FC inter. phase output U41	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.

3532	Chute f.roll FC overheating, h.sink U41	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
3534	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3536	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3538	Chute f.roll FC conv.hardware fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3540	Chute f.roll FC conv.hardware fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3542	Chute f.roll FC,fault,brake.t ransis.U41	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ► 892</i>).

3544	Chute f.roll FC, ext.fault chain U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3546	Chute f.roll FC motor overheating M41	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
3548	Chute f.roll FC, ext.fault chain U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3550	Chute f.roll FC, ext.fault chain U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3552	Chute f.roll FC, ext.fault chain U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3554	Chute f.roll FC, ext.fault chain U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3556	Chute f.roll FC,fault,optiona l card U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3558	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3560	Chute f.roll FC conv.hardware fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3562	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3564	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3566	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3568	Chute f.roll FC, torque standstill U41	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

3570	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3572	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
3574	Chute f.roll FC, unrecognised fault U41	Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		– Communication is interrupted.	
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3576	Chute f.roll FC conv.hardware fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3578	Chute f.roll FC,fault,optiona I card U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3580	Chute f.roll FC,fault,optiona I card U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3582	Chute f.roll FC, wrong conv. type U41	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3584	Chute f.roll FC, unrecognised fault U41	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3586	Chute f.roll FC, safety input U41 K41	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay. If the relay is ok, examine the control signal and the wiring.
		Frequency converter hardware	– Ask help from electrician. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
3602	Chute fan FC, parameter incorrect U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3604	Chute fan FC,communication shutdown U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3606	Chute fan FC CAN node status incorr.U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3608	Chute fan FC, motor overcurrent M43 U43	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.

		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.
3610	Chute fan FC, converter overload U43	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
3612	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3614	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3616	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3618	Chute fan FC earth fault, converter U43	Insulation: Short to earth due to damaged insulation	– Ask help from electrician. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Insulation of the motor: Short to earth due to damaged insulation in the motor.	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.

3620	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3622	Chute fan FC phase failure, p. supply U43	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again.
			If the short circuit occurs in motor, – Replace the motor.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
3624	Chute fan FC overvolt. interm.circ. U43	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.
		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
3626	Chute fan FC undervolt. interm.circ.U43	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor	If the electric motor runs on two phases only. – Ask electrician for help. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
3628	Chute fan FC loading cntctr. faulty U43	Charging contactor	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.

3630	Chute fan FC, interrupt.phase o.put U43	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.
3632	Chute fan FC, overheating,he at sink U43	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
3634	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3636	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3638	Chute fan FC,converter h.ware fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3640	Chute fan FC,converter h.ware fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3642	Chute fan FC, fault, brak.transist. U43	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ► 892</i>).

3644	Chute fan FC, ext. fault chain U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3646	Chute fan FC, overheating, motor M43	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
3648	Chute fan FC, ext. fault chain U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3650	Chute fan FC, ext. fault chain U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3652	Chute fan FC, ext. fault chain U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3654	Chute fan FC, ext. fault chain U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3656	Chute fan FC, fault, optional card U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3658	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3660	Chute fan FC, converter h.ware fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3662	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3664	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3666	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3668	Chute fan FC, torque standstill U43	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

3670	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3672	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3674	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3676	Chute fan FC,converter h.ware fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3678	Chute fan FC, fault, optional card U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3680	Chute fan FC, fault, optional card U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3682	Chute fan FC, incorr. converter type U43	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3684	Chute fan FC, unrecognised fault U43	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3686	Chute fan FC, safety input U43 K43	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay.
		Frequency converter hardware	If the relay is ok, examine the control signal and the wiring. – Ask help from electrician. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
3702	Crd. FC f.roll, parameter incorrect U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3704	Crd. FC f.roll, communicat.shutdown U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3706	Crd.FC f.roll CAN node status wrong U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3708	Crd.FC f.roll motor overcurrent M10 U10	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.

		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.
3710	Crd. FC f.roll overload, converter U10	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
3712	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3714	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3716	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3718	Crd.FC f.roll earth fault converter U10	Insulation: Short to earth due to damaged insulation.	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Insulation of the motor: Short to earth due to damaged insulation in the motor.	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.

3720	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3722	Crd. FC f.roll phase fail. p.supply U10	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again.
			If the short circuit occurs in motor, – Replace the motor.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
3724	Crd. FC f.roll, overvolt.interm. cir.U10	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.
		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
3726	Crd. FC f.roll undervolt.intrm. circ U10	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor	If the electric motor runs on two phases only. – Ask electrician for help. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
3728	Crd. FC f.roll loading cntr. faulty U10	Charging contactor	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.

3730	Crd. FC f.roll, interr.phase output U10	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.
3732	Crd. FC f.roll, overheat. heat.sink U10	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
3734	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3736	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3738	Crd.FC f.roll, conv.,hardware fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3740	Crd.FC f.roll, conv.,hardware fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3742	Crd. FC f.roll, fault braking trans.U10	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

3744	Crd. FC f.roll, ext. fault chain U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3746	Crd. FC f.roll, overheating motor M10	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
3748	Crd. FC f.roll, ext. fault chain U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3750	Crd. FC f.roll, ext. fault chain U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3752	Feed roll / feed trough solid matter D10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3754	Feed roll / feed trough big metal object D10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3756	Crd. FC f.roll, fault, optional card U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3758	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3760	Crd.FC f.roll, conv.,hardware fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3762	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3764	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3766	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3768	Crd. FC feed roll, torque standstill U10	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

3770	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3772	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3774	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3776	Crd.FC f.roll, conv.,hardware fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3778	Crd. FC f.roll, fault, optional card U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3780	Crd. FC f.roll, fault, optional card U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3782	Crd. FC f.roll wrong converter type U10	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3784	Crd. FC feed roll, unrecogn. fault U10	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3786	Crd. FC feed roll, safety input U10 K10	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay. If the relay is ok, examine the control signal and the wiring.
		Frequency converter hardware	– Ask help from electrician. – Do a test of the frequency converter (<i>refer to ► 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ► 892</i>).
3788	Feed roll / feed plate small metal object D10	The small metal object goes into the licker-in unit. – A small metal object made an electric contact between the feed lip and the feed roller.	– Remove the blockage in the licker-in unit (<i>refer to ► 313</i>). – Find the metal object within the material. – After all metal objects in the material are removed: Acknowledge the fault message, close the infeed channel firmly and restart the production.

3802	FC licker-in, parameter incorrect U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3804	FC licker-in, communic. shutdown U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3806	FC licker-in, CAN node status U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3808	FC licker-in, overcurrent, M1 3 motor U13	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.
3810	FC licker-in, overload, converter U13	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
3812	FC licker-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
3814	FC lick-in, unrecognised fault U13	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3816	FC licker-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3818	FC licker-in, earth fault, converter U13	Insulation: Short to earth due to damaged insulation.	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.

		Insulation of the motor: Short to earth due to damaged insulation in the motor.	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.
3820	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3822	FC lick-in, phase failure, p. supply U13	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again.

			If the short circuit occurs in motor, – Replace the motor.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
3824	FC lick-in, overvolt., intermediate circ. U13	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.
		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
3826	FC lick-in, undervolt. intermediate circ U13	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
3828	FC lick-in, load contactor faulty U13	Charging contactor – Ask electrician for help.	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.

			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.
3830	FC licker-in, interrup., phase outp. U13	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.
3832	FC licker-in, overheating, heat at sink U13	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.

3834	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3836	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
3838	FC lick-in, conv., hardw. fault U13	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3840	FC lick-in, conv., hardw. fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3842	FC licker-in, fault, braking transis. U13	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
3844	FC licker-in, ext. fault chain, U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3846	FC licker-in, overheating, motor M13	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to</i> ▶ 239). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
3848	FC licker-in, ext. fault chain, U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to</i> ▶ 898). – Set the frequency converter (<i>refer to</i> ▶ 895).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to</i> ▶ 892). – Fit the correct frequency converter type.

3850	FC licker-in, ext. fault chain, U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3852	FC licker-in, ext. fault chain, U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3854	FC lick-in, ext. fault chain, U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3856	FC lick-in, fault, optional card U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3858	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3860	FC lick-in, conv., hardw. fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
3862	FC licker-in, unrecognised fault U13	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3864	FC licker-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3866	FC licker-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3868	FC licker-in, torque standstill U13	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

3870	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3872	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
3874	FC licker-in, unrecognised fault U13	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3876	FC licker-in, conv., hardw. fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3878	FC licker-in, fault, optional card U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3880	FC licker-in, fault, optional card U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3882	FC lick-in, incorr. convert. type U13	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3884	FC lick-in, unrecognised fault U13	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3886	FC lick-in, safety input U13 K13	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay. If the relay is ok, examine the control signal and the wiring.
		Frequency converter hardware	– Ask help from electrician. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
3902	FC cylinder, parameter incorrect U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3904	FC cylinder, communication shutdown U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3906	FC cylinder, CAN node status incorr.U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3908	FC cylinder, overcurrent, motor M1 U1	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.

		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.
3910	FC cylinder, overload, converter U1	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
3912	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3914	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3916	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3918	FC cylinder, earth fault, converter U1	Insulation: Short to earth due to damaged insulation.	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Insulation of the motor: Short to earth due to damaged insulation in the motor.	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.

3920	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3922	FC cylinder, phase failure, p.supply U1	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again.
			If the short circuit occurs in motor, – Replace the motor.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
3924	FC cylinder, overvolt.intermed.circ.U1	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.
		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
3926	FC cylinder, undervolt.intermed.circ.U1	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor	If the electric motor runs on two phases only. – Ask electrician for help. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
3928	FC cylinder, load. contactor faulty U1	Charging contactor	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.

3930	FC cylinder, interrupt., phase output U1	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.
3932	FC cylinder, overheating, heat at sink U1	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the housing of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
3934	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3936	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3938	FC cylinder, converter, hardw.fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3940	FC cylinder, converter, hardw.fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3942	FC cylinder, fault,braking transist.U1	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

3944	FC cylinder, external fault chain U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3946	FC cylinder, overheating, motor M1	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
3948	FC cylinder, external fault chain U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

3950	FC cylinder,external fault chain U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3952	FC cylinder,external fault chain U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3954	FC cylinder, external fault chain U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3956	FC cylinder, fault, optional card U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3958	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3960	FC cylinder, converter, hardw.fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3962	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3964	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3966	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3968	FC cylinder, torque standstill U1	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

3970	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3972	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3974	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
3976	FC cylinder, converter, hardw.fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

3978	FC cylinder, fault, optional card U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3980	FC cylinder, fault, optional card U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3982	FC cylinder, incorr. converter type U1	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3984	FC cylinder, unrecognised fault U1	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
3986	FC for cylinder, safety input U1 K1	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay. If the relay is ok, examine the control signal and the wiring.
		Frequency converter hardware	– Ask help from electrician. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
4102	Flats FC, faulty parameters, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4104	Flats FC, communic. interrupt., U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4106	Flats FC, incorrect CAN status, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4108	Flats FC, overcur., M50, M58 mots., U50	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.

		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.
4110	Flats FC, overload, converter, U50	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts. If the drive belt is worn, – Replace the drive belt.
4112	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4114	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4116	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4118	Flats FC, earth fault, converter, U50	Insulation: Short to earth due to damaged insulation.	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Insulation of the motor: Short to earth due to damaged insulation in the motor.	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.

4120	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4122	Flats FC, phase failure, network, U50	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again.
			If the short circuit occurs in motor, – Replace the motor.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
4124	Flats FC, overvolt., interm. circ., U50	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.
		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
4126	Flats FC, undervolt., interm.circ., U50	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor	If the electric motor runs on two phases only. – Ask electrician for help. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
4128	Flats FC, faulty charging contactor, U50	Charging contactor	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.

4130	Flats FC, interrupt., phase, output, U50	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.
4132	Flats FC, overtemp., heat sink, U50	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
4134	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4136	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4138	Flats FC,converter, hardware fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4140	Flats FC,converter, hardware fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4142	Flats FC,fault, braking transistor, U50	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ► 892</i>).

4144	Flats FC, external alarm trip, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to</i> ▶ 898). – Set the frequency converter (<i>refer to</i> ▶ 895).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to</i> ▶ 892). – Fit the correct frequency converter type.
4146	Flats FC, overtemp., motors, M50 M56	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to</i> ▶ 239). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to</i> ▶ 892).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
4148	Flats FC, external alarm trip, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4150	Flats FC, external alarm trip, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4152	Flats FC, external alarm trip, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4154	Flats FC, external alarm trip, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4156	Flats FC, fault, option card, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4158	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4160	Flats FC,converter, hardware fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4162	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4164	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4166	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4168	Flats FC, torque, standstill, U50	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

4170	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4172	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4174	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4176	Flats FC,converter, hardware fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4178	Flats FC, fault, option card, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4180	Flats FC, fault, option card, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4182	Flats FC, incorrect converter type, U50	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4184	Flats FC, unknown fault, U50	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4186	Flats FC, safety input U50 K50	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay. If the relay is ok, examine the control signal and the wiring.
		Frequency converter hardware	– Ask help from electrician. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
4202	FC doffer, parameter incorrect U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4204	FC doffer, communication shutdown U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4206	FC doffer,CAN node status incorrect U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4208	FC doffer, overcurrent motor M11 U11	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.

		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.
4210	FC doffer overload, converter U11	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
4212	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4214	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4216	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4218	FC doffer, earth fault, converter U11	Insulation: Short to earth due to damaged insulation.	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Insulation of the motor: Short to earth due to damaged insulation in the motor.	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.

4220	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4222	FC doffer, phase failure, p. supply U11	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again.
			If the short circuit occurs in motor, – Replace the motor.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ▶ 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
4224	FC doffer, overvoltage, interm.circ.U11	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.
		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
4226	FC doffer, undervolt. interm.circ. U11	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only. – Examine the power supply. – Tighten the terminals again. If short circuit occurs in motor. – Replace the motor.
4228	FC doffer, loading contactor faulty U11	Charging contactor – Ask electrician for help.	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ▶ 892</i>). – Try again.

4230	FC doffer, interruption phase output U11	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.
4232	FC doffer, overheating, heat sink U11	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
4234	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4236	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4238	FC doffer, converter, hardware fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4240	FC doffer, converter, hardware fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4242	FC doffer, fault, braking transistor U11	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

4244	FC doffer, external fault chain U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4246	FC doffer, overheating, motor M11	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
4248	FC doffer, external fault chain U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to</i> ▶ 898). – Set the frequency converter (<i>refer to</i> ▶ 895).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to</i> ▶ 892). – Fit the correct frequency converter type.

4250	FC doffer, external fault chain U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4252	FC doffer, external fault chain U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4254	FC doffer, external fault chain U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4256	FC doffer, fault, optional card U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4258	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4260	FC doffer, converter, hardware fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
4262	FC doffer, unrecognised fault U11	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4264	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4266	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4268	FC doffer, torque standstill U11	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

4270	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4272	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4274	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4276	FC doffer, converter, hardware fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4278	FC doffer, fault, optional card U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4280	FC doffer, fault, optional card U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4282	FC doffer, incorrect converter type U11	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4284	FC doffer, unrecognised fault U11	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4302	FC delivery, parameter incorrect U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4304	FC delivery, communication shutdown U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4306	FC delivery, CAN node status incorr.U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4308	FC delivery overcurrent, motor M12 U12	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.

4310	FC delivery overload, converter U12	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
4312	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to</i> ▶ 898). – Set the frequency converter (<i>refer to</i> ▶ 895).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to</i> ▶ 892). – Fit the correct frequency converter type.

4314	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4316	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
4318	FC delivery, earth fault, converter U12	Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
		– CAN bus is defective – Wrong type	
4318	FC delivery, earth fault, converter U12	Insulation:	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
		Short to earth due to damaged insulation.	
4320	FC delivery, unrecognised fault U12	Insulation of the motor:	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.
		Short to earth due to damaged insulation in the motor.	
4320	FC delivery, unrecognised fault U12	Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		– Communication is interrupted.	

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4322	FC delivery, phase failure, p. supply U12	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again. If the short circuit occurs in motor, – Replace the motor.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
4324	FC delivery, overvolt. interm.circ. U12	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.

		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
4326	FC delivery, undervolt. interm.circ U12	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
4328	FC delivery, loading contact.faulty U12	Charging contactor – Ask electrician for help.	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.
4330	FC delivery, interrupt.phase output U12	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.

4332	FC delivery, overheating, heat sink U12	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ► 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
4334	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4336	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4338	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4340	FC delivery, converter, hardw.fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to</i> ▶ 898). – Set the frequency converter (<i>refer to</i> ▶ 895).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to</i> ▶ 892). – Fit the correct frequency converter type.
4342	FC delivery, fault, brk. transist. U12	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to</i> ▶ 239). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to</i> ▶ 892).

4344	FC delivery, external fault chain U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4346	FC delivery, overheating, motor M12	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
4348	FC delivery,external fault chain U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4350	FC delivery,external fault chain U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4352	FC delivery,external fault chain U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
4354	FC delivery, external fault chain U12	Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		– Communication is interrupted.	
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4356	FC delivery, fault, optional card U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4358	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4360	FC delivery, converter, hardw.fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4362	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4364	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4366	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4368	FC delivery, torque standstill U12	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

4370	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4372	FC delivery, converter, hardw.fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
4374	FC delivery, unrecognised fault U12	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		– Communication is interrupted.	
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4376	FC delivery, converter, hardw.fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4378	FC delivery, fault, optional card U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4380	FC delivery, fault, optional card U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4382	FC delivery, incorr. converter type U12	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4384	FC delivery, unrecognised fault U12	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4502	FC coiler parameters incorrect U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4504	FC coiler communication shutdown U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4506	FC coiler CAN node status incorrect U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4508	FC coiler overcurrent motor M1 U60	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Wrong wiring	Examine the wiring.
		Damaged motor: Motor consumes too much current.	Replace the motor.

4510	FC coiler overload converter U60	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Drive belt	If the drive belt is insufficiently tensioned, – Tension drive belt. – Check and tension the toothed belts.
			If the drive belt is worn, – Replace the drive belt.
4512	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4514	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4516	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
4518	FC coiler earth fault converter U60	Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Insulation:	– Ask electrician for help. – Examine the cabling for the insulation damage. – Replace the damaged cable.
4518	FC coiler earth fault converter U60	Short to earth due to damaged insulation.	
		Insulation of the motor:	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.
4518	FC coiler earth fault converter U60	Short to earth due to damaged insulation in the motor.	
		Insulation of the motor:	– Ask electrician for help. – Measure the resistance of each phase to earth. – Replace the motor if there is a short to earth in the motor.
4520	FC coiler unknown error U60	Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		– Communication is interrupted.	

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4522	FC coiler phase failure p.supply U60	Unstable electrical grid	– Ask electrician for help. – Examine the pre-fusing of the grid and the line power.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only, – Examine the power supply. – Tighten the terminals again. If the short circuit occurs in motor, – Replace the motor.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 777</i>). – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
4524	FC coiler overvoltage interm. circ. U60	Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too high, make sure that the grid voltage is correct.

		Drive equipped with a braking resistor (see electro documentation) – A damaged braking resistor leads to overvoltage in the intermediate circuit.	– Check braking resistor for damage. – Measure resistance and compare with electro documentation. – Check for loose wires at the resistor and at the inverter.
4526	FC coiler undervoltage interm.circ. U60	Electrical grid	– Ask electrician for help. – If the power supply is off for short term, make sure that the power supply is stable and the voltage is correct.
		Electrical grid voltage	– Ask electrician for help. – If the electrical grid voltage is too low, make sure that the grid voltage is correct.
		Electric motor – Ask electrician for help.	If the electric motor runs on two phases only. – Examine the power supply. – Tighten the terminals again.
			If short circuit occurs in motor. – Replace the motor.
4528	FC coiler loading contactor faulty U60	Charging contactor – Ask electrician for help.	If the switching fails, – Set the main switch to the position OFF. – Set the main switch to the position ON. – Try again.
			If the coil is burned out or the contactor has another defect, – Replace the frequency converter (<i>refer to ► 892</i>). – Try again.
4530	FC coiler interruption phase output U60	Cable – Ask electrician for help.	If the cable does not contact, – Examine the wires of the cable connection to the motor. – Connect the output terminals correctly.
		Motor – Ask electrician for help.	If power of the motor is too weak, examine the motor.

4532	FC coiler overheating heat sink U60	Cooling plate – Ask electrician for help.	If the cooling plate is not connected, – Connect to the cooling plate with the heat transfer compound. – Adapt the frequency converter to the cooling system (<i>refer to ▶ 898</i>).
		Cooling plate	If the cooling plate is blocked, – Clean the house of the frequency converter with the vacuum cleaner by the electrician. – Clean the cooling plate at the rear side of the control cabinet. – Adapt the frequency converter to the cooling system (<i>refer to ▶ 898</i>).
		Climate	If the ambient temperature is too high, – Lower the ambient temperature. Final measure: – Lower the power. – Reduce production. – Reduce the speed of drive.
4534	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4536	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4538	FC coiler converter hardware fault U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.

4540	FC coiler converter hardware fault U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4542	FC coiler error brake transistor U60	Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter (<i>refer to ► 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ► 892</i>).

4544	FC coiler external fault chain U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4546	FC coiler overheated motor M1	Mechanical reason: – Load torque of individual axis is too large. – Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that do not move easily.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter hardware (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).

		Motor temperature monitor: – Temperature not too high – False alarm – Signal not correct	– Ask electrician for help. – Examine the motor temperature monitor. – Check motor cable and wiring.
4548	FC coiler external fault chain U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to</i> ▶ 898). – Set the frequency converter (<i>refer to</i> ▶ 895).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to</i> ▶ 892).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to</i> ▶ 892). – Fit the correct frequency converter type.

4550	FC coiler external fault chain U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4552	FC coiler external fault chain U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4554	FC coiler external fault chain U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4556	FC coiler fault optional card U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4558	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4560	FC coiler converter hardware fault U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4562	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4564	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4566	FC coiler missing rotary pulses B60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4568	FC coiler torque standstill U60	Excessive load torque.	Check the drive for material blockages and for mechanical blockages.

4570	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4572	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
4574	FC coiler unknown error U60	– CAN bus is defective	
		Frequency converter	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
		– Wrong type	
		Frequency converter communication	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor:	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		– Resistor missing – Wrong setting – Wrong connection	
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).

		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.
4576	FC coiler converter hardware fault U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ► 898</i>). – Set the frequency converter (<i>refer to ► 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ► 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ► 892</i>). – Fit the correct frequency converter type.

4578	FC coiler fault optional card U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4580	FC coiler fault optional card U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).

		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.
		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4582	FC coiler wrong converter type U60	Frequency converter – Wrong type	– Ask help from electrician. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4584	FC coiler unknown error U60	Frequency converter communication – Communication is interrupted.	– Ask electrician for help. – Check CAN bus for loose wires and loose connectors. – Make sure that the connectors are plugged in firmly and at the right position. – Assign parameters for the frequency converter T1000V (<i>refer to ▶ 898</i>). – Set the frequency converter (<i>refer to ▶ 895</i>).
		CAN bus, Terminating resistor: – Resistor missing – Wrong setting – Wrong connection	– Ask electrician for help. – Make sure that the terminating resistor is set according to the electrical documentation.

		Frequency converter hardware	– Ask electrician for help. – Do a test of the frequency converter in data screen 4.2.7.2. – If the frequency converter is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – CAN bus is defective	– Ask electrician for help. – If the CAN bus is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
		Frequency converter – Wrong type	– Ask electrician for help. – Identify the frequency converter (<i>refer to ▶ 892</i>). – Fit the correct frequency converter type.
4586	FC coiler, safety input U60 K60	Relay does not switch.	– Obtain the services of a qualified electrician. – Examine function of the relay. – If the relay is defective, replace the relay. If the relay is ok, examine the control signal and the wiring.
		Frequency converter hardware	– Ask help from electrician. – Do a test of the frequency converter (<i>refer to ▶ 239</i>). – If the frequency converter hardware is defective, replace the frequency converter (<i>refer to ▶ 892</i>).
5054	EMERG-OFF button card, EMERG-OFF tst	Emergency stop button is pushed.	– Eliminate the cause of the emergency stop. – Turn the emergency stop button clockwise to release the emergency stop button.
		Emergency stop button is released.	– Tell the plant electrician. – Examine the wiring. – Do a function test of the safety relay (<i>refer to ▶ 777</i>).

5056	Lock doors, test EMERG-OFF circuit	Emergency stop button is pushed.	– Eliminate the cause of the emergency stop. – Turn the emergency stop button clockwise to release the emergency stop button.
		Emergency stop button is released.	– Tell the plant electrician – Examine the wiring. – Do a function test of the safety relay (<i>refer to ► 777</i>).
5062	Door safeguard, driving side, card S18	Doors are open.	Close the doors and the covers.
		Doors are closed, but the fault is still existing.	– Adjust the door lock mechanism and the safety switch (<i>refer to ► 105</i>). – Do a function test of the safety relay (<i>refer to ► 777</i>).
5064	Coiler, hood open S15	The hood is not closed.	If the hood is open, close the hood.
			If the hood is closed already, but the fault message is still existing. – Examine and adjust the safety limit switches. – Do a function test of the safety relay (<i>refer to ► 777</i>).
5070	S6 key sw., EMERG. SHUTD. circ. test	Key switch – Production operation is needed. – But key switch is at position II (grind card flats).	Set the key switch to the position I.
5080	Production, creep speed, stopped	Doffer was intentionally changed to creep speed.	No steps are necessary. Additional information: – This display appears as a warning 30 seconds prior to expiration of the time set in data screen 2.3.1.5. – Production stops after the set time expires.

		Doffer was not changed to creep speed.	Start the production (doffer at high speed) (<i>refer to</i> ▶ 262). Additional information: – Production remains at creep speed, if a sliver is not detected between the disk rollers.
		Doffer is at a standstill.	Start the production (doffer at slow speed) (<i>refer to</i> ▶ 261).
5152	Card A% value overshoot B6	Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	– Clean the space below the doffer. – Clean and adjust the tongue. – Adjust the distance from tongue to the cylinder (<i>refer to</i> ▶ 330). – At re-commissioning, examine the fiber movement at cylinder and doffer.
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to</i> ▶ 781). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Draft in delivery unit – Not optimally adapted to the delivery speed	– Set the draft for the take-off roller and delivery rollers (<i>refer to</i> ▶ 338). – Do the configuration of the card delivery (<i>refer to</i> ▶ 277).
		Pressure monitor – An incorrect feedback is sent out.	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to</i> ▶ 92).
		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to</i> ▶ 288).
		The delivery unit is dirty.	Clean the delivery unit (<i>refer to</i> ▶ 758).

		The configuration of the A% value is incorrect.	– Examine the shut-off limit values in the data screen 2.2.2.1. – Adjust the shut-off limit A% (<i>refer to ▶ 400</i>).
		Incorrect measurement – Check the value in the field Delivery scanner card B6 in the data screen 4.2.2. – The card sliver is OK, but the limit values are exceeded.	Calibrate the distance measuring device (<i>refer to ▶ 358</i>).
5154	Card CV value overshoot B6	Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer	– Clean the space below the doffer. – Clean and adjust the tongue. – Adjust the distance from tongue to the cylinder (<i>refer to ▶ 330</i>). – At re-commissioning, examine the fiber movement at cylinder and doffer.
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ▶ 781</i>). – Grind the doffer.
		Draft in delivery unit is not optimally adapted to the delivery unit.	– Set the draft for the take-off roller and delivery rollers (<i>refer to ▶ 338</i>). – Do the configuration of the card delivery (<i>refer to ▶ 277</i>).
		Pressure monitor – An incorrect feedback is send out.	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
		The delivery unit is dirty.	Clean the delivery unit (<i>refer to ▶ 758</i>).
		The configuration of the CV% value is incorrect.	– Examine the shut-off limit values in the data screen 2.2.2.2. – Adjust the shut-off limit CV% (<i>refer to ▶ 401</i>).

		Incorrect measurement – Check the value in the field Delivery scanner card B6 in the data screen 4.2.2. – The card sliver is OK, but the limit values are exceeded.	Calibrate the distance measuring device (<i>refer to ▶ 358</i>).
5156	Card spectrogram overshoot B6	Clothing – Evaluate the wear on licker-in and cylinder. – Visual inspection and evaluation of the clothing (<i>refer to ▶ 781</i>). – Evaluate the clothing of the card flats (<i>refer to ▶ 784</i>).	If the clothing is dull, – Grind clothing. – Remove the licker-in unit (<i>refer to ▶ 839</i>). – Prepare the cylinder for grinding operation (<i>refer to</i>). – Start the card flat for grinding operation (<i>refer to ▶ 786</i>).
			If the clothing is worn or damaged, – Replace the clothing. – Replace the cylinder clothing.
			If the clothing is not applicable for the current application, use the applicable clothing.
		Bearing damage or mechanical components are damaged.	– If the parts rotating out of the round, replace the parts. – If the toothed belts running with noise, apply correctly tension to the toothed belts. – Replace the toothed belts if necessary.
		Damaged technology components or guide elements caused an uneven material flow.	– Replace the damaged parts.
		Tension is not applied correctly.	– If material accumulates between two elements and when the accumulated mass is large enough to form a slub, replace the necessary parts. – If the material is tensioned tightly and is irregularly drafted, decrease tension until the material accumulates, then increase the tension a little bit. Objective: Lowest possible tension, without material accumulation.

		Incorrect correction factor	Examine the correction factor in the data screen 2.2.2.3.
5164	Card, slubs exceeded B6	Tongue – Material accumulates under the tongue. – The material accumulation touches the doffer and disturbs the web. – The material accumulation brakes the doffer.	– Clean the space below the doffer. – Clean and adjust the tongue. – Adjust the distance from tongue to the cylinder (<i>refer to ► 330</i>). – At re-commissioning, examine the fiber movement at cylinder and doffer.
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Draft in delivery unit is not optimally adapted to the delivery speed.	– Set the draft for the take-off roller and delivery rollers (<i>refer to ► 338</i>). – Do the configuration of the card delivery (<i>refer to ► 277</i>).
		Pressure monitor – An incorrect feedback is sent out.	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).
		The delivery unit is dirty.	Clean the delivery unit (<i>refer to ► 758</i>).
		The configuration of the A% value is incorrect.	– Examine the shut-off limit values in the data screen 2.2.2.1. – Adjust the shut-off limit A% (<i>refer to ► 400</i>).

		Incorrect measurement – Check the value in the field Delivery scanner card B6 in the data screen 4.2.2. – The card slider is OK, but the limit values are exceeded	Calibrate the distance measuring device (<i>refer to ▶ 358</i>).
5168	D95K Spectrogram inactive !!!	Incorrect checksum of the program, program destroyed The module A 20 (D95K) is defective.	– Replace the control module D95K (<i>refer to ▶ 890</i>). – Tell the RIETER customer service. Replace the control module D95K (<i>refer to ▶ 890</i>).
5308	Prod. can missing, rod switch fault S11	No can is in the can changer. Rod switch does not function. The spare can is at the carrier, but the rod switch cannot detect the can.	– Put in an empty can. – Tap the can change key to change the can correctly. – If the fault occurs frequently during the can change, adjust the speed for manual can change (<i>refer to ▶ 275</i>). Examine the function of the rod switch.
5310	Rod sw.or carrier drive belt defect S11	Rod switch does not function. The spare can is at the carrier, but the rod switch cannot detect the can. The drive belt for the trolley is torn.	Examine the function of the rod switch. Replace the drive belt for the can trolley (<i>refer to ▶ 903</i>).
5352	Sensor empty can or changer drive defective B66	No empty can is available.	Insert an empty can.
5354	Production can missing, sensor empty can B66	No can in the can changer	– Execute a correct can change. – Change the can (touch the button on the overview screen).
5482	Empty can missing	No empty cans are available.	Put in an empty can.

5902	Delivery motor, max. speed reached M12	Drive belt	If the drive belt is insufficiently tensioned, – Tension the drive belt. – Examine and tension toothed belts. If the drive belt is worn. – Replace the drive belt.
		The delivery speed detection module does not work properly.	If the setting is incorrect, – Adjust the proximity switch for delivery speed (<i>refer to ► 101</i>).
		The proximity switch	If the function impaired. – Examine the wiring.
			If the wiring of the proximity switch is OK, – Replace the proximity switch.
5904	Delivery motor, min. speed reached M12	Drive belt	If the drive belt is insufficiently tensioned, – Tension the drive belt. – Examine and tension toothed belts. If the drive belt is worn. – Replace the drive belt.
		The delivery speed detection module does not work properly.	If the setting is incorrect, – Adjust the proximity switch for delivery speed (<i>refer to ► 101</i>).
		The proximity switch	If the function impaired. – Examine the wiring.
			If the wiring of the proximity switch is OK, – Replace the proximity switch.
5906	Card feed roll, max. speed reached M10	Batt is too light.	Adjust the batt weight (<i>refer to ► 288</i>).
			If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
			If the target pressure is too low, due to high material separation and low material density. – Examine the batt weight (<i>refer to ► 288</i>).
		Poor bat feed	Make the analysis of the pressure monitor.
		Pressure monitor	– Remove and clean the pressure tube. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).

		Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).
		Measuring device of the feed plate at the lick-in.	If the value is not in the target range. (Range of signal feed without material is 730 -770. The standard setting is 750.)
		– Check the value in the field Feed scanner card B5 in the data screen 4.2.2.	– Adjust the sensor of the feed plate at lick-in unit (<i>refer to ► 93</i>).
			If the measuring device is defective.
			– Replace the measuring device of the feed plate.
5908	Batt feeder lap too light B5	Batt is too light.	Adjust the batt weight (<i>refer to ► 288</i>).
			If the chute runs empty.
			– Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
			The target pressure is too low, due to high material separation and low material density.
			– Examine the batt weight (<i>refer to ► 288</i>).
		Compression fan	
		Fan, channel, or mesh wall is clogged.	Examine and clean the fan, channel, or mesh wall.
		Measuring device of the feed plate at the lick-in is set poorly.	Adjust the sensor of the feed plate at lick-in unit (<i>refer to ► 93</i>).
		Feed trough in chute	If the load of the feed trough is not correct.
			– Adjust the feed trough load (<i>refer to ► 290</i>).
			If the feed trough in chute is jammed.
			– Adjust the feed trough for a minimum distance (<i>refer to ► 289</i>).
5910	Batt feeder lap too heavy B5	The batt is too heavy.	Adjust the batt weight (<i>refer to ► 288</i>).
			If the chute is overfilled.
			– Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
		Measuring device of the feed plate at the lick-in is set poorly.	Adjust the sensor of the feed plate at lick-in unit (<i>refer to ► 93</i>).

		Feed trough in chute	If the load of the feed trough is not correct. – Adjust the feed trough load (<i>refer to ▶ 290</i>). If the feed trough in chute is jammed. – Adjust the feed trough for a minimum distance (<i>refer to ▶ 289</i>).
5912	Sliver weight too light B6	Draft – For disk rollers with a width of 9 mm, the sliver weight is lighter than 3.4 ktex. – For disk rollers with a width of 15 mm, the sliver weight is lighter than 6.0 ktex.	Examine and correct the sliver weight (<i>refer to ▶ 278</i>).
		Draft – Correction factor capacity is reached. – Correction factor: 0.5 – 1.5	– Examine the target sliver weight. – Set the sliver weight in the data screen 2.1.1.
		Sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ▶ 337</i>).
		Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ▶ 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Suction unit Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.
5914	Sliver weight too heavy B6	Draft – Sliver weight is heavier than 15 ktex.	Examine and correct the sliver weight (<i>refer to ▶ 278</i>).
		Draft – Correction factor capacity is reached. – Correction factor: 0.5 – 1.5	– Examine the target sliver weight. – Set the sliver weight in the data screen 2.1.1.
		Sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (<i>refer to ▶ 337</i>).

		Measuring device in the delivery unit	If the measured value remains too long in the low limit area. – Calibrate the distance measuring device (refer to ► 358).
5916	Scanner sliver, min. level cntrl. B6	Draft – Card sliver is too light. – Card sliver is too heavy.	Reset the delay of the autolever (refer to ► 277).
		The sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (refer to ► 337).
		Measuring device in the delivery unit	If the measured value remains too long in the low limit area. – Calibrate the distance measuring device (refer to ► 358).
5918	Scanner sliver, max. level cntrl. B6	Draft – Card sliver is too light. – Card sliver is too heavy.	Reset the delay of the autolever (refer to ► 277).
		The sliver weight in creep speed is incorrectly set.	Adjust the sliver weight in creep speed (refer to ► 337).
		Measuring device in the delivery unit	If the measured value remains too long in the low limit area. – Calibrate the distance measuring device (refer to ► 358).
5920	Controll. sliv. wght. under-compens.	Suction unit – Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.
		Web – The web falls off the doffer. – The web is extracted.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (refer to ► 781). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		The measuring device in the feed unit is set poorly.	Adjust the sensor of the feed plate at licker-in unit (refer to ► 93).
		The delay of the autoleveler is incorrect.	Reset the delay of the autoleveler (refer to ► 277).

		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
5922	Controll. sliv. wght. over-compens.	Suction unit – Poor air ratios in the delivery unit.	Better adjust the air ratios in the discharge unit so that the web is not suctioned.
		Web – The web falls off the doffer. – The web is extracted.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		The measuring device in the feed unit is set poorly.	Adjust the sensor of the feed plate at licker-in unit (<i>refer to ► 93</i>).
		The delay of the autoleveler is incorrect.	Reset the delay of the autoleveler (<i>refer to ► 277</i>).
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ► 890</i>).
5924	Coiler motor max. r.p.m. reached M1	Motor - coiler – Speed is too high.	– Slightly lower the selected production, i.e. delivery speed. – Enter the production (<i>refer to ► 268</i>). – Check, clean and tension the slip of the drive belt – motor M12. – Set the machine type (<i>refer to ► 207</i>).
5926	Coiler motor min. r.p.m. reached M1	Motor - coiler – Speed is too low.	– Examine the motor M12. – Set the machine type (<i>refer to ► 207</i>).
5932	Doffer motor has reached max. speed M11	The draft in delivery unit is too high.	If the target rotational speed of the doffer motor is too high – Lower the draft in delivery unit. – Set the draft for the take-off roller and the delivery roller (<i>refer to ► 338</i>).
		The delivery speed is too high.	– Reduce the delivery speed. – Enter the production (<i>refer to ► 268</i>).

5934	Doffer motor speed too slow M11	The draft in delivery unit is too low.	If the target rotational speed of the doffer motor is too low. – Increase the draft in the delivery unit. – Set the draft for the take-off roller and the delivery roller (<i>refer to ► 338</i>).
		The delivery speed in creep speed is too low.	Select the data screen 2.3.1.5, in the field Speed creep speed , increase the speed. (Delivery speed, slow: 15m/min)
5936	Standard draft too small	Web – The web falls off the doffer. – The web is removed.	– Examine the doffer status. – Do the visual inspection and the analysis of the clothing (<i>refer to ► 781</i>). – Grind the doffer. Possible cause: The grinding roller was too forcefully advanced against the toothed tips or the grinding stones are dull.
		Suction unit – Poor air ratios in the delivery unit	Better adjust the air ratios in the discharge unit so that the web is not suctioned.
		Measuring device in the feed unit is set poorly.	Adjust the sensor in the feed unit (<i>refer to ► 93</i>).
		Feed trough in chute	If the load of the feed trough is not correct. – Adjust the feed trough load (<i>refer to ► 290</i>).
			If feed trough has jams. – Adjust the feed trough for a minimum distance (<i>refer to ► 289</i>).
5938	Standard draft too large	The batt is too heavy.	– Adjust the batt weight (<i>refer to ► 288</i>).
			If the chute is overfilled. – Adjust the pressure monitoring sensor (<i>refer to ► 92</i>).
		Feed trough in chute	If the load of the feed trough is not correct. – Adjust the feed trough load (<i>refer to ► 290</i>). If the feed rough has jams. – Adjust the feed trough for a minimum distance (<i>refer to ► 289</i>).

		Measuring device in the feed unit is set poorly.	Adjust the sensor in the feed unit (<i>refer to ► 93</i>).
5940	Blowroom production too low	If the plant control system (UNIcontrol) detects that is not able to feed enough material it sets the electric signal "lower production" to the card	– Enter the reduced production in data screen 2.1.1. – After a while the blowroom should be able to feed enough material and the warning will be reset. – If this state lasts for a long time, the production in the blowroom has to be increased. – If it is not possible to increase the blowroom production, the problem in the blowroom need to be solved.
5942	Thread sliver through disc rollers	The production is started but there is no sliver detected between the disc rollers.	– Thread the sliver through the disc rollers and bring the sliver into the coiler (<i>refer to ► 262</i>). – If not, the material would accumulate in the area of the delivery rollers and cause problems.
6052	IGS-classic cycle incomplete B51	Flat belt is insufficiently tensioned. Mechanical features – Do a function test for IGS-classic (<i>refer to ► 811</i>).	Adjust the flat belt with the tension screws (<i>refer to ► 808</i>). If a mechanical cause in the guide carriage prevents movement. – Clean the guide carriage. – Repair the guide carriage, if necessary. – Replace the guide carriage, if necessary (<i>refer to ► 802</i>).
6054	IGS-classic grindstone position S53	Electromagnet – Check the voltage on the electromagnet.	If the voltage is present and electromagnet does not raise grindstone. – Replace the electric magnet (<i>refer to ► 797</i>). – Adjust the height of the grinding stone (<i>refer to ► 809</i>).
6056	IGS-classic motor fails to start M51	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.

		Motor damaged – Motor consumes too much current.	Replace the motor.
		Pneumatic connection is interrupted.	Examine the compressed-air line.
		Air pressure of the supply line is insufficient.	Make sure that the air pressure of supply line is between 7.0 – 8.0 bar.
6058	IGS-classic grindstone position S53	Electromagnet – Check the voltage on the electromagnet.	If the voltage is present and electromagnet does not raise grindstone. – Replace the electric magnet (<i>refer to ► 797</i>). – Adjust the height of the grinding stone (<i>refer to ► 809</i>).
6060	IGS-classic solenoid cooling	Lift magnet is too hot for additional cycle.	Wait until the lifting magnet has cooled down.
6062	IGS-classic solenoid cooling	Lift magnet is too hot for additional cycle.	Wait until the lifting magnet has cooled down.
6064	Service cover grindstone IGS-classic open S54	The safety cover of the IGS-classic is not closed.	– Close the service cover of IGS-classic grindstone. For normal operation it must be closed.
			If the safety cover is closed but the warning is still existing, – Check the mechanical adjustment of the safety cover to make sure that the lug of the safety cover operates the limit switch S54.
			If the mechanical setting is ok but the warning is still existing, – Check the wiring and the connector of IGS-classic.
6102	IGS-top cycle aborted	The machine has been stopped by the operator during the grinding cycle.	The grinding cycle continues automatically after the machine starts.

		Grinding pressure	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: If excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: If the grinding pressure is still insufficient, the mechanical basic setting must be reduced from 3.5 – 3.0.
		Motor protection switch	If the motor protection switch has tripped (once). – Make analysis of mechanical reason. If the motor protection switch trips recurrently even if the drive is mechanically in order. – Replace the motor protection switch.
		Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
6104	IGS-top grinding force too high	Grinding pressure	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
		– Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	

6106	IGS-top grinding force too high	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (refer to ► 815).	If the grinding pressure is too high. – Decrease the grinding pressure (refer to ► 816). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. If the grinding pressure is too low. – Increase the grinding pressure (refer to ► 816). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
6108	IGS-top grinding force high	A high grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (refer to ► 815).	– Decrease the grinding pressure (refer to ► 816). – Additional information: – If excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. – This warning message only comes up in test mode. When the warning messages comes up, the signal lamp is ON.
6110	IGS-top grinding force high	A high grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (refer to ► 815).	Decrease the grinding pressure (refer to ► 816). Additional information: – If excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. – This warning message only shown in test mode. When the warning messages comes up, the signal lamp is ON. The status of the signal lamp can help the user to test and adjust the IGS-top.

6112	IGS-top grinding force low	A low grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	– Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: – If the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0. – This warning message only shown in test mode. When the warning messages comes up, the signal lamp is flashing. The status of the signal lamp can help the user to test and adjust the IGS-top.
6114	IGS-top grinding force low	A low grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	– Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: – If the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0. – This warning message only shown in test mode. When the warning messages comes up, the signal lamp is flashing. The status of the signal lamp can help the user to test and adjust the IGS-top.
6116	IGS-top grinding force too low	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.

6118	IGS-top grinding force too low	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0. If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
6120	IGS-top current of motor too low	The current consumption of the IGS-top motor without load is too low. – The card itself is planned for a line voltage of 400V. If the line voltage is lower than about 380V, a reliable measurement of the grinding pressure will not be possible.	– Check the line voltage. – If it is lower than 380V adjust the line voltage or ask the energy supplier to increase the line voltage.
6404	Congestion, flat cleaning B11	Light barrier – Check the LED.	If the LED is continuously illuminated. – Adjust the suction channel monitor. – Increase the delay time in the data screen 2.3.1.7. If the LED is never illuminated. Make the analysis of the flat disposal chamber. If the fault happens frequently even though the clogging is not really present. – Extend the delay time. – Set the delay time (<i>refer to ► 901</i>).
		Flat disposal chamber: The flat disposal chamber is clogged.	Clean the suction channel (<i>refer to ► 765</i>).

		Suction unit: Clogging in the suction unit. Insufficient airflow rate at the suction point, although the suction unit has enough suction.	Remove the clogging in the channels.
6406	Wait until flat clean.monitor. act. B11	The flats cleaning unit has fibers, waste or blockage.	Clean the suction duct and reflector of sensor B11 (<i>refer to ► 765</i>).
6412	Wait until flat clean.monitor. act. B11	The flats cleaning unit has fibers, waste or blockage.	Clean the suction duct and reflector of sensor B11 (<i>refer to ► 765</i>).
6422	Carding gap measurement, position 1	Measuring mode – card flat – The measuring mode is active. – Carding gap measurement is at position 1. – The message Carding gap measurement, position 1 is shown.	Adjust the card flats (<i>refer to ► 315</i>).
6424	Carding gap measurement, position 2	Measuring mode – card flat – The measuring mode is active. – Carding gap measurement is at position 1. – The message Carding gap measurement, position 1 is shown.	Adjust the card flats (<i>refer to ► 315</i>).
6426	Carding gap measurement, position 3	Measuring mode – card flat – The measuring mode is active. – Carding gap measurement is at position 1. – The message Carding gap measurement, position 1 is shown.	Adjust the card flats (<i>refer to ► 315</i>).

6428	Carding gap measurement, position 4	Measuring mode – card flat – The measuring mode is active. – Carding gap measurement is at position 1. – The message Carding gap measurement, position 1 is shown.	Adjust the card flats (<i>refer to ► 315</i>).
6430	Carding gap measurement, position 5	Measuring mode – card flat – The measuring mode is active. – Carding gap measurement is at position 1. – The message Carding gap measurement, position 1 is shown.	Adjust the card flats (<i>refer to ► 315</i>).
6432	Meas. pos. approach, carding gap	Measuring mode – card flat – The measuring mode is active. – Carding gap measurement is at position 1. – The message Carding gap measurement, position 1 is shown.	Adjust the card flats (<i>refer to ► 315</i>).
7002	Select chute `pressure level 1` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).
7004	Select chute `pressure level 1` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).
7006	Select chute `pressure level 2` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).
7008	Select chute `pressure level 2` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).
7010	Select chute `pressure level 3` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ► 288</i>).

7012	Select chute `pressure level 3` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7014	Select chute `pressure level 4` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7016	Select chute `pressure level 4` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7018	Increase chute `batt weight` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7020	Increase chute `batt weight` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7022	Reduce chute `batt weight` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7024	Reduce chute `batt weight` 2.3.1.4	Configuration	– Examine the configuration. – Set the batt weight (<i>refer to ▶ 288</i>).
7026	Reduce distance chamber wall chute	The batt is too heavy.	Adjusting the batt weight (<i>refer to ▶ 288</i>). If the chute is overfilled. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
7028	Reduce distance chamber wall chute	The batt is too heavy.	Adjusting the batt weight (<i>refer to ▶ 288</i>). If the chute is overfilled. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
7030	Increase distance chamber wall chute	The batt is too light.	Adjusting the batt weight (<i>refer to ▶ 288</i>). If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>). If the target pressure is too low, because of the high material separation and low material density. – Examine the batt weight (<i>refer to ▶ 288</i>).

7032	Increase distance chamber wall chute	The batt is too light.	Adjusting the batt weight (<i>refer to ▶ 288</i>).
			If the chute runs empty. – Adjust the pressure monitoring sensor (<i>refer to ▶ 92</i>).
			If the target pressure is too low, because of the high material separation and low material density. – Examine the batt weight (<i>refer to ▶ 288</i>).
7102	IGS-classic grindstone position S53	Electromagnet – Check the voltage on the electromagnet.	If the voltage is present and electromagnet does not raise grindstone. – Replace the electric magnet (<i>refer to ▶ 797</i>). – Adjust the height of the grinding stone (<i>refer to ▶ 809</i>).
7104	IGS-classic motor fails to start M51	Mechanical reason: Load torque of individual axis is too large. Drive runs sluggishly.	– Separate parts of the drive and try to move them individually. – Repair or replace driven parts that does not move easily.
		Motor damaged – Motor consumes too much current.	Replace the motor.
		Pneumatic connection is interrupted.	Examine the compressed-air line.
		Air pressure of the supply line is insufficient.	Make sure that the air pressure of supply line is between 7.0 – 8.0 bar.
7106	IGS-classic grindstone position S53	Electromagnet – Check the voltage on the electromagnet.	If the voltage is present and electromagnet does not raise grindstone. – Replace the electric magnet (<i>refer to ▶ 797</i>). – Adjust the height of the grinding stone (<i>refer to ▶ 809</i>).
7108	IGS-cl. max. grinding cycles reached	Service life – cylinder clothing – Visual inspection and evaluation of the clothing (<i>refer to</i>).	If the cylinder clothing is worn out. – Replace the cylinder clothing (<i>refer to</i>).
			If the cylinder clothing is not sharp, but not yet worn out. – Examine the wear of IGS grinding stone (<i>refer to ▶ 774</i>).

7110	IGS-cl. max. grinding cycles reached	Service life – cylinder clothing – Visual inspection and evaluation of the clothing (refer to).	If the cylinder clothing is worn out. – Replace the cylinder clothing (refer to). If the cylinder clothing is not sharp, but not yet worn out. – Examine the wear of IGS grinding stone (refer to ► 774).
7112	IGS-classic cycle incomplete B51	Flat belt: The flat belt is insufficiently tensioned. Mechanical features: – IGS-classic – execute a function test (refer to ► 811). – A mechanical cause in the guide carriage prevents movement.	Loosen and tighten the flat belt (with tension screws) (refer to ► 808). – Clean the guide carriage. – Replace the guide carriage (refer to ► 802).
7114	IGS-classic inactive (fault)	Flat belt: The flat belt is insufficiently tensioned. Mechanical features: – IGS-classic – execute a function test (refer to ► 811). – A mechanical cause in the guide carriage prevents movement.	Loosen and tighten the flat belt (with tension screws) (refer to ► 808). – Clean the guide carriage. – Replace the guide carriage (refer to ► 802).
7116	IGS-classic, check grindstone	Service life of the IGS-classic – At end of service life for IGS-classic, if Contin. grinding is selected in data screen 2.3.1.3, then each time the 80 additional grinding cycles are completed this message comes up.	– Check if the grinding stone is still thick enough (refer to ► 799). – If the grinding stone is still ok, confirm to continue the grinding operation in data screen 4.1.3.3. – If the grinding stone is worn, replace the grinding stone (refer to ► 801).

7118	IGS-classic, check grindstone	Service life of the IGS-classic At end of service life for IGS-classic, if Contin. grinding is selected in data screen 2.3.1.3, then each time the 80 additional grinding cycles are completed this message comes up.	- Check if the grinding stone is still thick enough (<i>refer to ▶ 799</i>). - If the grinding stone is still ok, confirm to continue the grinding operation in data screen 4.1.3.3. - If the grinding stone is worn, replace the grinding stone (<i>refer to ▶ 801</i>).
7152	IGS-top max. grinding cycles reached	Service life – card flat clothing Determine whether the card flat clothing must be ground (<i>refer to ▶ 784</i>).	If the card flat clothing is worn out but still can be ground. - Prepare the machine to grind the card flats (<i>refer to ▶ 786</i>). If the card flat clothing is worn out - Replace the card flat clothing. - Remove the card flats (<i>refer to ▶ 791</i>). If the card flat clothing is not yet worn out, merely incorrectly configure. - Change the service life of the card flat clothing (<i>refer to ▶ 813</i>). - See the information: Service life and grinding cycles (<i>refer to ▶ 813</i>).
7154	IGS-top max. grinding cycles reached	Service life – card flat clothing Determine whether the card flat clothing must be ground (<i>refer to ▶ 784</i>).	If the card flat clothing is worn out but still can be ground. - Prepare the machine to grind the card flats (<i>refer to ▶ 786</i>). If the card flat clothing is worn out - Replace the card flat clothing. - Remove the card flats (<i>refer to ▶ 791</i>). If the card flat clothing is not yet worn out, merely incorrectly configure. - Change the service life of the card flat clothing (<i>refer to ▶ 813</i>). - See the information: Service life and grinding cycles (<i>refer to ▶ 813</i>).

7156	IGS-top cable breakage, curr. meas. D55	The module A 20 (D95K) is not defective.	– Examine the current converter D 55. – Replace the current converter D 55 if necessary.
		The module A 20 (D95K) is defective.	Replace the control module D95K (<i>refer to ▶ 890</i>).
7158	IGS-top grinding force too high	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ▶ 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ▶ 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0.
			If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ▶ 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
7160	IGS-top grinding force too high	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ▶ 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ▶ 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0.
			If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ▶ 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
7162	IGS-top grinding force too low	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ▶ 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ▶ 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0.

			If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
7164	IGS-top grinding force too low	Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0.
			If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.
7166	IGS-top inactive (fault)	Adjustment of the IGS-top: The position of the grinding brush is not adjusted.	Examine the position of the grinding brush (<i>refer to ► 818</i>).
		Grinding pressure – Check current consumption (with grinding brush contact on the card flats clothing) (<i>refer to ► 815</i>).	If the grinding pressure is too high. – Decrease the grinding pressure (<i>refer to ► 816</i>). Additional information: if excessive current draw continues, the mechanical basic setting must be increased to 4.5 – 5.0.
			If the grinding pressure is too low. – Increase the grinding pressure (<i>refer to ► 816</i>). Additional information: if the grinding pressure is still insufficient, the mechanical basic setting must be decreased from 3.5 to 3.0.

7302	Prox. switch, carrier centre defect B16	The function of the magnet switch is not correct.	– Examine the magnetic switch. – Adjust the magnetic switch for the can trolley drive (<i>refer to ► 391</i>).
7304	Prox. switch, carrier centre defect B16	The function of the magnet switch is not correct.	– Examine the magnetic switch. – Adjust the magnetic switch for the can trolley drive (<i>refer to ► 391</i>).
7306	Prox. switch, carrier centre defect B8	The function of the magnet switch is not correct.	– Examine the magnetic switch. – Adjust the magnetic switch for the can trolley drive (<i>refer to ► 391</i>).
7308	Sliver cutting delay	Sequence – sliver cutting	If the sliver funnels lift at the incorrect time. – Set the delay time for sliver cutting (<i>refer to ► 371</i>).
			If the clamping duration is incorrect. – Set the correct clamping time interval (<i>refer to ► 371</i>).
		Incorrect sliver cutting procedure	Adjust the time of the sliver cutting operation (<i>refer to ► 369</i>).
7402	Low battery A10	The battery is discharged.	Replace the battery (<i>refer to ► 896</i>).
7406	Licker-in lift. cylinder blocked M29	Within a certain time the licker-in knife did not move while the motor was switched on.	Check the knife for mechanical blockages. And check all connectors at the motor and on the left machine side for good contact. – If the knife is moving check if the sensor for reference position B29 is reached. – If the knife is moving and all the connectors and the wiring is ok, replace the motor.
7408	Lt. barr., flat clean.unit, soiled, B11	Light barrier is dirty.	Clean the light barrier.
7410	Activate clothing of doffer	Doffer clothing – After resetting of the production counter of the doffer clothing in data screen 4.1.3.2 there is maintenance warning processed with a request to activate the doffer clothing.	– The necessary parts of the card have to be removed and with the ASG the doffer clothing has to be sharpened (activated). – After activation of the doffer clothing, the procedure of activation has to be confirmed in data picture 4.1.3.2.

7412	Activate clothing of doffer	Doffer clothing – After resetting of the production counter of the doffer clothing in data screen 4.1.3.2 there is maintenance warning processed with a request to activate the doffer clothing.	– The necessary parts of the card have to be removed and with the ASG the doffer clothing has to be sharpened (activated). – After activation of the doffer clothing, the procedure of activation has to be confirmed in data picture 4.1.3.2.
7416	Replace carbon brush of solid body detector infeed channel	The carbon brushes at the feed roller card is damaged or worn.	Check the condition of the carbon brushes at the feed roller card. – If the carbon brushes are damaged or worn, replace the carbon brushes.

8.3.1 About the Fault Message Lists

,All faults with fault codes that are shown on the operating unit are recorded in a fault message list with numbers that increase.

The fault message list helps to correct a fault that occurs during the machine operation.

A fault message list contains 4 columns. The columns contain the information that follows:

Table Head	Explanation
Fault code	The fault code is the number to identify a fault.
Fault text	The fault text gives a short description of the fault.
Fault cause	The fault cause shows the condition that started the fault. 1 or more causes are possible.
Remedy	The remedy shows the alternatives how to correct the fault.

The machine shows different alarm levels on the operating unit. Different alarm levels cause different machine reactions.

Alarm Level	Fault Icon	Impact on the Production	Explanation
Alarm		The production stops.	An alarm immediately stops the production. An operator intervention is necessary. To start the production, is not possible until the fault is repaired. The signal lamp is on.

Alarm Level	Fault Icon	Impact on the Production	Explanation
Warning message		The production continues, but the output is possible to be decreased.	The production does not immediately decrease. An operator intervention must follow as soon as possible to prevent that the production decreases or stops. The signal lamp is off or flashes in relation to the fault cause. A warning message can become an alarm at any time.
Maintenance warning		The production continues.	A maintenance warning tells the maintenance personnel to do specified works at the machine. The maintenance warnings are caused by a software that monitors the machine units. The 2 types of maintenance warnings are: – Do the maintenance as soon as possible. Get maintenance personnel in less than a day. – Do the maintenance during the next timed maintenance interval. The signal lamp flashes. A maintenance warning can get an alarm at any time.

Data in curly parentheses {...} are placeholders for a number or a text in the fault message that is adapted to the situation.

8.4 LEDs of the CPU CP1584

The description of the LEDs statuses of the CPU CP1584 is in the following table.

Figure	LED	Color	Status	Description
	R/E	Green	On	The application is running.
			Blinking	Boot mode system starts: CPU is initializing the application, all bus systems and I/O modules. The process can take several minutes depending on the configuration.
			Double flash	BOOT mode (during firmware update) The process can take several minutes depending on the configuration.
		Red	On	SERVICE mode
			Blinking	The R/E LED blinks red and the RDY/F LED blinks yellow when a license violation occurs.
	RDY/F	Yellow	On	SERVICE mode or BOOT mode
			Blinking	The RDY/F LED blinks yellow and the R/E LED blinks red when a license violation occurs.
	S/E	Green/Red	--	S/E means Status/Error LED. The Status/Error LED is a green/red dual LED. The LED status can have different meanings depending on the operating mode.
	PLK	Green	On	A link to the POWERLINK peer station has been established.
			Blinking	A link to the POWERLINK peer station has been established. The LED blinks when the Ethernet activity is taking place on the bus.
	ETH	Green	On	A link to the peer station has been established.
			Blinking	A link to the peer station has been established. The LED blinks when the Ethernet activity is taking place on the bus.
	CF	Green	On	CompactFlash has been inserted and detected.
		Yellow	On	CompactFlash reads/writes access.
	DC	Yellow	On	CPU power supply is OK.
		Red	On	Backup battery is empty.

8.5 LEDs of Input Module

The description of the LEDs statuses of the input module is in the following table.

Figure	LED	Color	Status	Description
	S	Green	Off	No power to module
			Single flash	RESET mode
			Blinking	PREOPERATIONAL mode
			On	RUN mode
		Red	Off	Module supply is not connected or everything is OK.
			Red on / Green single flash	Invalid firmware
	1-16	Green	--	Input status of the corresponding digital input

8.6 LEDs of Output Module

The description of the LEDs statuses of the output module is in the following table.

Figure	LED	Color	Status	Description
	S	Green	Off	Module supply is not connected.
			Single flash	RESET mode
			Blinking	PREOPERATIONAL mode
			On	RUN mode
		Red	Off	Module supply is not connected or everything is OK.
			Single flash	Warning/Error is on an I/O channel. Level monitoring for digital outputs has been started.
		Red on / Green single flash		Invalid firmware
	1-16	Orange	--	Output status of the corresponding digital output

8.7 LEDs of D95k

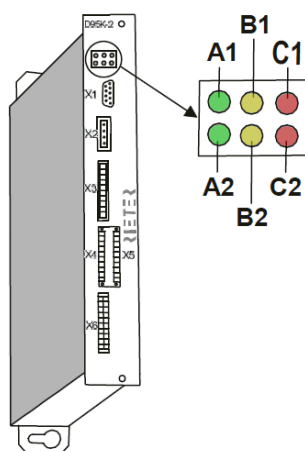


Figure 397: LEDs of D95K

LEDs	Description
A1	Light up – The supply voltage 5 V is order. – The correct supply voltage of 24 V is set on the plug X2 pin 1 and 2 or 3 and 4.
A2	Light up – CAN communication status: in operation Flashing – CAN communication status: in preparation Flashing erratically – CAN communication status: stopped
B1	Light up – Watchdog is OK
B2	Flashing – The data relevant to the quality of the card are being calculated.
C1	Light up – A power failure has occurred.
C2	Light up – The D95K-2 module has interrupted the CAN communication due to too many faults Flashing erratically – The D95K-2 module has many faults in the CAN communication network, or cannot send, since no receiver (control unit) is connected

9 Maintenance

This chapter contains the information about:

- The cleaning of the machine
- The lubrication of the machine
- The inspection of the machine

9.1 Maintenance Personnel

Only Rieter approved personnel are permitted to do the maintenance work at the machine.

9.2 Interval Specification

The intervals shown below are guide values.

Interval Specification	Duration in 3-shift Operation
165 operating hours	1 week
330 operating hours	2 weeks
660 operating hours	4 weeks
2 000 operating hours	3 months
4 000 operating hours	6 months
8 000 operating hours	1 year

9.3 Protocol for the Safety Circuit

In the protocol for the safety circuit, the replacement of each safety device is recorded.

The steps to replace the safety devices are as follows:

1. Identify each safety device in the electrical documentation of the machine.
2. Refer to the operation manual to replace each safety device. Replace fully the related safety devices.
3. To do the function test of each replaced safety device, refer to the operation manual of the machine.

Example of a protocol for the safety circuit:

Date	Device Tag	Location	Replacement Description	Who	Signature
01/01/2015	S8	= SLO + EC1	The emergency stop button is replaced because the red plastic push-button has mechanical damage.	J. Meyer	JM
01/07/2016			A function test of the safety circuit is done during the commissioning.	Mr. Field Engineer	FE
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

9.4 Cleaning Table by Cycle

Target group	Cleaning cycle	Additional information	
Operator	Cleaning each 4 - 8 h	9.8.5	Cleaning the Delivery Section
	Cleaning each 24 h	9.8.6	Cleaning the Delivery Unit
	Cleaning each 165 h	9.8.7	Cleaning the Area of the Calender Rollers
Maintenance Personnel	Cleaning each 165 h	9.8.8	Cleaning the Coiler Tube
		9.8.9	Examining the Bottom Feed Channel
	Cleaning each 330 h	9.8.10	Cleaning the Doffer
		9.8.11	Cleaning the Card Flat Clothing
		9.8.12	Cleaning the Deflection Areas of the Card Flats
		9.8.13	Cleaning the Clearer Roller PW1
		9.8.14	Cleaning the Suction Duct
		9.8.15	Cleaning the Flat Shoes Brush
	Cleaning each 660 h	9.8.16	Cleaning the Drive Belts
		9.8.17	Cleaning the Gap Between the Doffer and the Shield
	Cleaning each 2 000 h	9.8.18	Cleaning the Card Flat Heads
		9.8.19	Cleaning the Inside of the Cylinder
		9.8.20	Cleaning the Carding Profiles

Target group	Cleaning cycle	Additional information	
		9.8.21	Cleaning the Coiler Drive and the Can Plate Drive
	Cleaning related to the material	9.8.1	Cleaning the Surface of the Cover Profile Knife
		9.8.2	Cleaning the Clearance between the Feed Roller and the Cover Profile Knife
		9.8.3	Cleaning the Doffer Covers
		9.8.4	Cleaning the Web Bridge

9.5 Lubrication Table by Cycle

Target group	Lubrication cycle	Additional information	
Maintenance Personnel	Lubrication each 4 000 h	9.9.1	Lubricating the Cylinder Bearings

9.6 Inspection Table by Cycle

Target group	Inspection cycle	Additional information	
Maintenance Personnel	Inspection each 330 h	9.10.2	Examining the Feed Roller Suction
		9.10.3	Visual Inspection for the Clearer Roller PW2
	Inspection each 12 months	9.10.4	Doing the Function Test of the Safety Relay
	Inspection each 48 months	10.9.5	Replacing the Battery of the Control System
	Inspection for wear parts	9.10.1	Doing the Inspection of the Grinding Stone

9.7 Lubricants

This chapter contains the information about the lubricants for this machine.

Lubricants

Heat Transfer Compound

Property	Specifications
Characteristic	Silicone-free
Thermal conductivity	0.9 – 1.0 W/mK

NLGI 2/1 (EP2) – Semi-synthetic Grease

Property	Specifications
Consistency class (DIN 51818)	2/1
Dripping point (DIN ISO 2176)	180 – 190 °C
Operating-temperature range	–25 – +150 °C

NLGI 2/1 (S22) -
Mineral Grease

Property	Specifications
Consistency class (DIN 51818)	2/1
FZG-Test (A/8.3/90 DIN 51354) damage force level	> 14
Dripping point (DIN ISO 2176)	180 – 190 °C
Operating-temperature range	–40 – +120 °C

NLGI 3 (K3) – Mineral
Grease

Property	Specifications
Consistency class (DIN 51818)	3
Dripping point (DIN ISO 2176)	> 190 °C
Operating-temperature range	–15 – +150 °C

Supplier

Lubricant	Supplier	Name
EP2	AGIP	GR MU EP 2
	AVIA	AVIALITH 2 EP
	BP	ENERGREASE LS-EP 2
	CASTROL	SPHEEROL EPL 2
	EXXON MOBILE	MOBILUX EP 2
	KLÜBER	MICROLUBE GBU-Y 131
	LAGERMEISTER	LAGERMEISTER TS
	OPTIMOL	LONGTIME PD 2
	PETRO CANADA	PRECISION GENERAL PURPOSE EP 2
	SHELL	GADUS S2 V220 2
	TEXACO	MULTIFAK EP 2
	VALVOLINE	MULTIPLEX SG-2
S22	CASTROL	LONGTIME HS 1.5
	FUCHS	URETHYN LT 60
	KLÜBER	KLÜBERPLEX BEM 41-132
		ISOFLEX LDS 18 SPECIAL A
		ISOFLEX NBU 15
		ISOFLEX NCA 15
	SHELL	AEROSHELL GREASE 33
	VALVOLINE	CALBASE AR-2
K3	AVIA	AVIALITH 3 EP
	BP	ENERGREASE LS 3

Lubricant	Supplier	Name
	CASTROL	SPHEEROL AP 3
	ESSO	UNIREX N3
		BEACON EP 3
	EXXON MOBILE	UNIREX N3
		MULTILUX EP 3
	KLÜBER	CENTOPLEX 3
	PETRO CANADA	PRECISION XL EMB
	SHELL	GADUS S2 V100 3
	TEXACO	MULTIFAK PREMIUM 3

9.8 Cleaning Work

This section contains the information about the cleaning work at the machine.

9.8.1 Cleaning the Surface of the Cover Profile Knife

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening of the mote knife is 70 mm.
 - ✓ A moist cleaning cloth is to be used.
 - ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. Put the hand into the suction opening to touch the surface of the cover profile knife **1**.

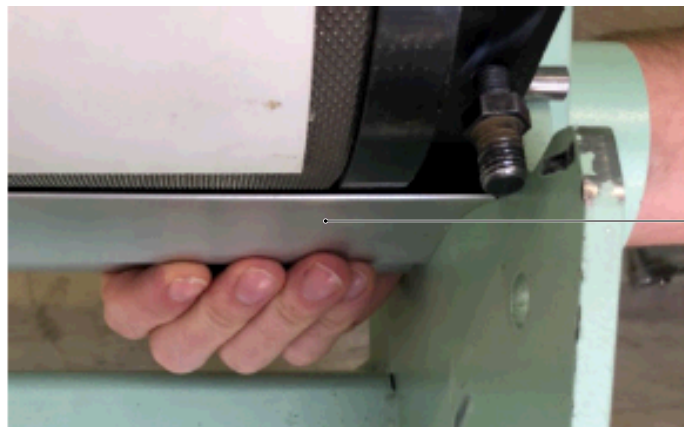


Figure 398: Cover profile knife

2. Examine the surface condition of the cover profile knife.
3. If the dust or fibers are attached on the surface, use the moist cleaning cloth to clean the surface of the cover profile knife.

Result The surface of the cover profile knife is cleaned.

9.8.2 Cleaning the Clearance between the Feed Roller and the Cover Profile Knife

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ The opening of the mote knife is 70 mm.

1. Remove the screw **1**.

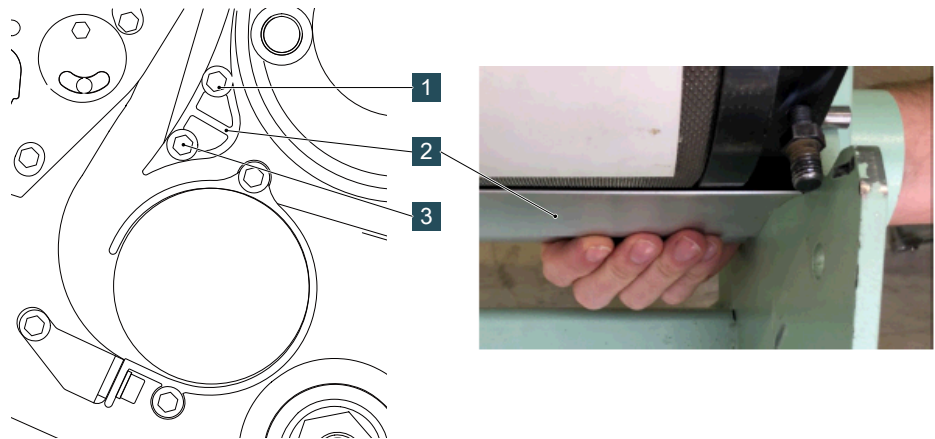


Figure 399: Suction of the cover profile knife

2. Loosen the screw **3**.
3. Put the hand into the suction opening from the side to turn the cover profile knife **2** away from the feed roller.
4. Go into the area between the card chute and the card.
5. Use the compressed air to clean the area between the feed roller and the cover profile **2**.
6. Turn the cover profile knife **2** back to the initial position.
7. Make sure that the distance between the cover profile knife **2** and the feed roller is 1 mm.
8. Install the screw **1**.
9. Tighten the screw **3**.

Result The clearance between the feed roller and the cover profile knife is cleaned.

9.8.3 Cleaning the Doffer Covers

The doffer covers contain 6 pieces of the covers.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ A moist cloth is to be used.

Removing the Doffer Covers

1. Remove the front cover of the delivery unit.

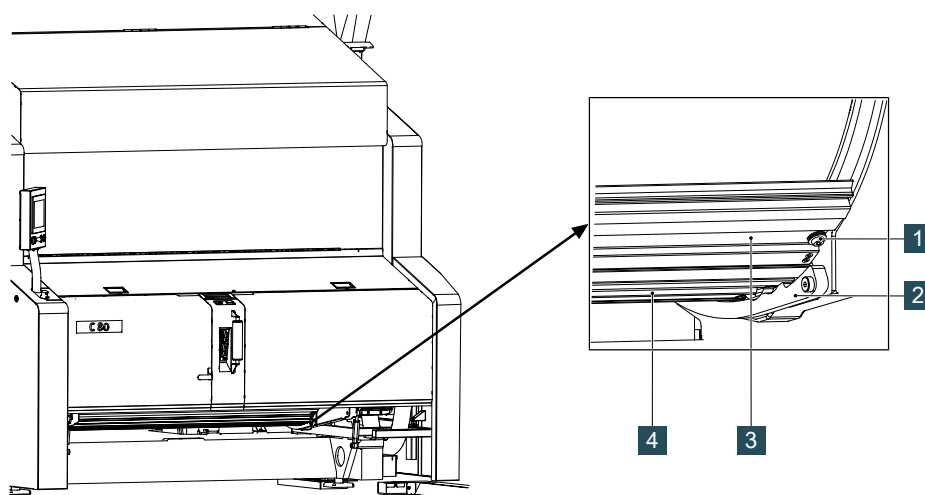


Figure 400: Doffer covers

2. Remove the screw **1** on 2 side of the doffer.
3. Pull out the 1st cover **3**.
 - ⇒ The 2nd cover **4** is pulled out by the 1st cover **3** from the space between the clamp bow **2** and the doffer.
4. Unhook the 1st cover **3** from the 2nd cover **4**.
 - ⇒ The 1st cover is removed.
5. Do the same steps 3 and 4 to remove the rest 5 pieces of the covers.
 - ⇒ The doffer covers are removed.

Cleaning the Doffer Covers

1. Clean the surface of each cover with the moist cloth.
 - ⇒ The doffer covers are cleaned.

Installing the Doffer Covers

1. Slide the 1 of the covers into the space between the clamp bow and doffer.
2. Hook another cover to the previous one.
3. Push in the 2 covers.
4. Do the same step from 1 to 3 until the 5th cover is installed.
5. Move all covers along clamp bow **3** to make sure the cover is at the end position **5**.

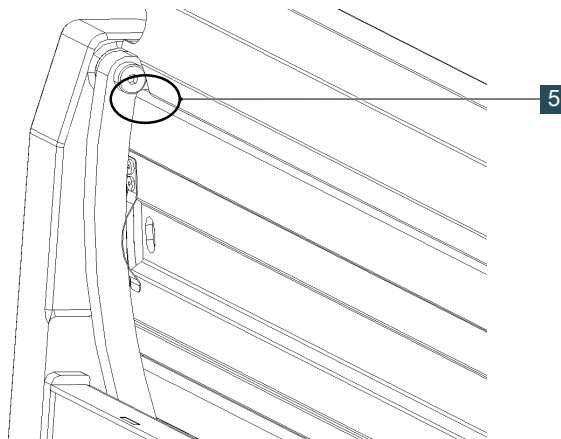


Figure 401: Cover at the end position

6. Hook the last cover to the previous one.
7. At 2 sides of the doffer, install the last cover to the doffer frame with screw **1**.
⇒ The doffer covers are installed.

Result The doffer covers are cleaned.

9.8.4 Cleaning the Web Bridge

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ A moist cleaning cloth is to be used.
- ✓ A hook is to be used.

1. Open the hood of the delivery unit at the left side of the machine.

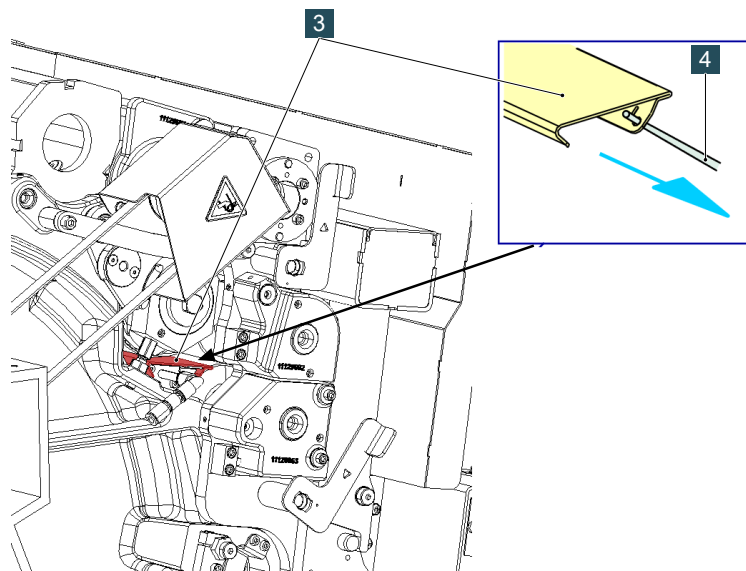


Figure 402: Web bridge

1. Put the correct hook **4** into the bore of the web bridge **3**.

2. Pull out the web bridge **3** with the hook **4**.
3. Clean the web bridge **3** with the moist cleaning cloth.
4. Push in the web bridge **3** to the initial position until the web bridge at the end stop.
5. Close the hood.

Result The web bridge is cleaned.

9.8.5 Cleaning the Delivery Section

Prerequisites Make sure that the criteria are obeyed:

- ✓ The doffer is at a standstill.
- ✓ A cleaning cloth is to be used.



WARNING

Turning doffer!

Hand injuries

- Do Not go into the area of the doffer.
- Make sure that only approved personnel clean the doffer.

1. Swivel down the disk roller unit **2** in the direction of the arrows.

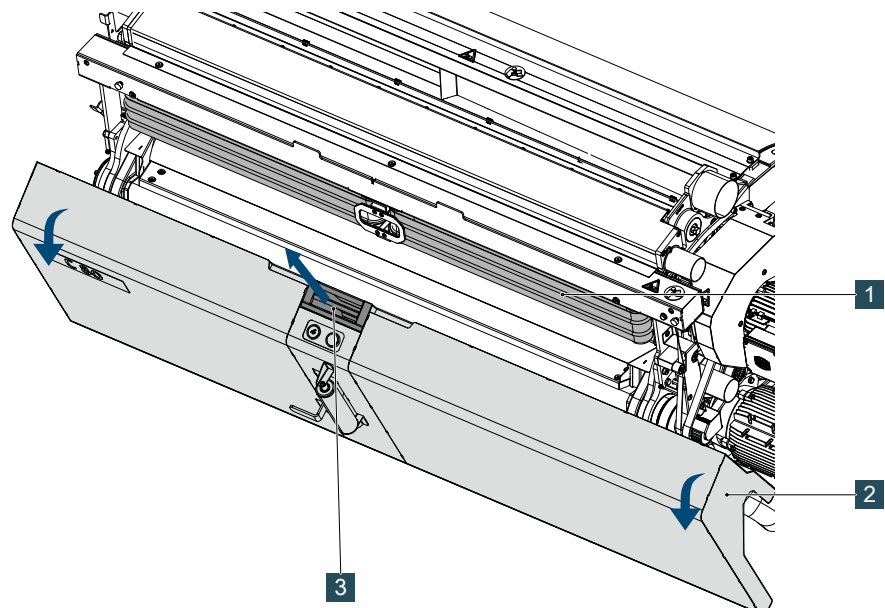


Figure 403: Disk roller unit

2. Pull out the sliver funnel unit **3** in the direction of the arrow.
3. Clean the sliver funnel unit **3** with the cleaning cloth.
4. **WARNING! Turning doffer! Hand injuries.** Swivel down the cross apron unit **7** in the direction of the arrows.

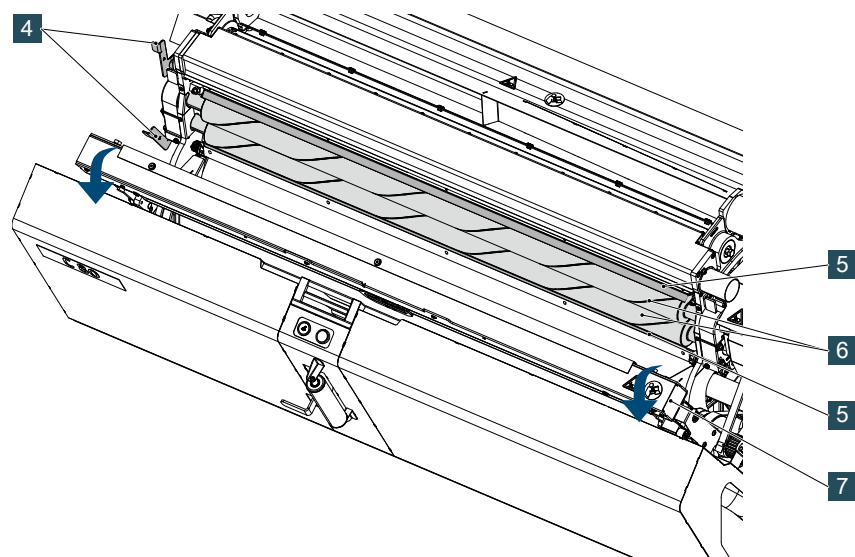


Figure 404: Delivery rollers

5. Push the levers **4** to open the blades **5**.
6. Clean the blades **5** and the delivery rollers **6** with the cleaning cloth.

Result The delivery section is cleaned.

9.8.6 Cleaning the Delivery Unit

Prerequisites Make sure that the criteria are obeyed:

- ✓ The doffer is at a standstill.
- ✓ A moist cleaning cloth is to be used.
- ✓ A cleaning brush is to be used.
- ✓ A roll picker is to be used.



WARNING

Turning doffer!

Injury to the hands because the hands are pulled in the turning doffer

- ▶ Do **NOT** touch the area of the turning doffer.
- ▶ Push the production stop button to stop the doffer.
- ▶ Wait until the doffer is at a standstill.

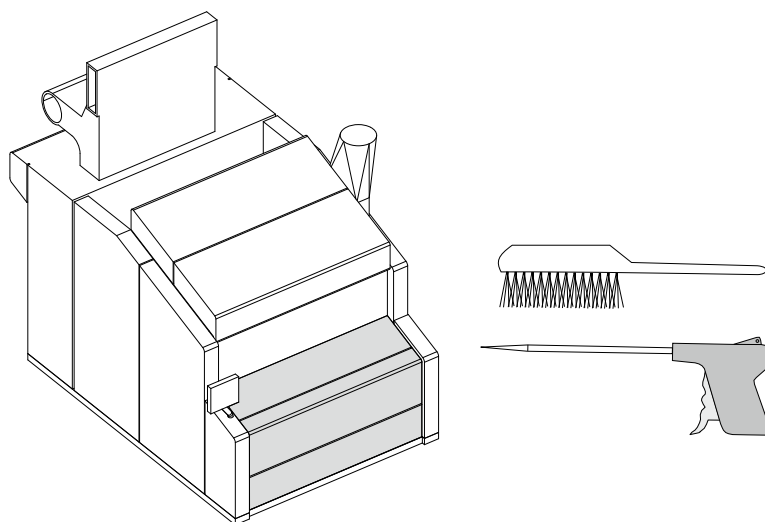


Figure 405: Cleaning work at the delivery unit

1. Make sure that the doffer is stopped.
2. Clean the delivery rollers with the moist cleaning cloth and the cleaning brush.
3. Use the roller picker to clean the delivery unit.

Result The delivery unit is cleaned.

9.8.7 Cleaning the Area of the Calender Rollers

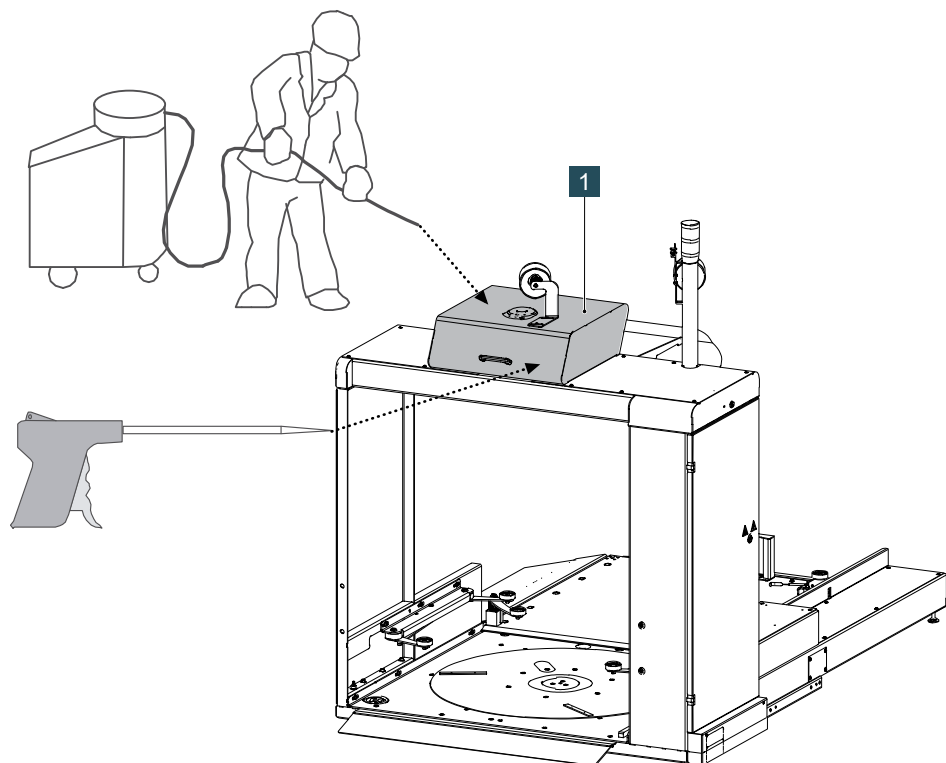


Figure 406: Sliver coiling device CBA

Prerequisites Make sure that the criteria are obeyed:

- ✓ A roller picker is to be used.
 - ✓ An industrial vacuum cleaner is to be used.
1. Do not clean the area of the calender rollers **1** with a sharp auxiliary tool.
 2. To remove the impurities around the area of the calender rollers **1**, use the industrial vacuum cleaner.
 3. To remove the material from the clogged area of the calender rollers **1**, use the roller picker.

Result The area of the calender rollers is cleaned.

9.8.8 Cleaning the Coiler Tube

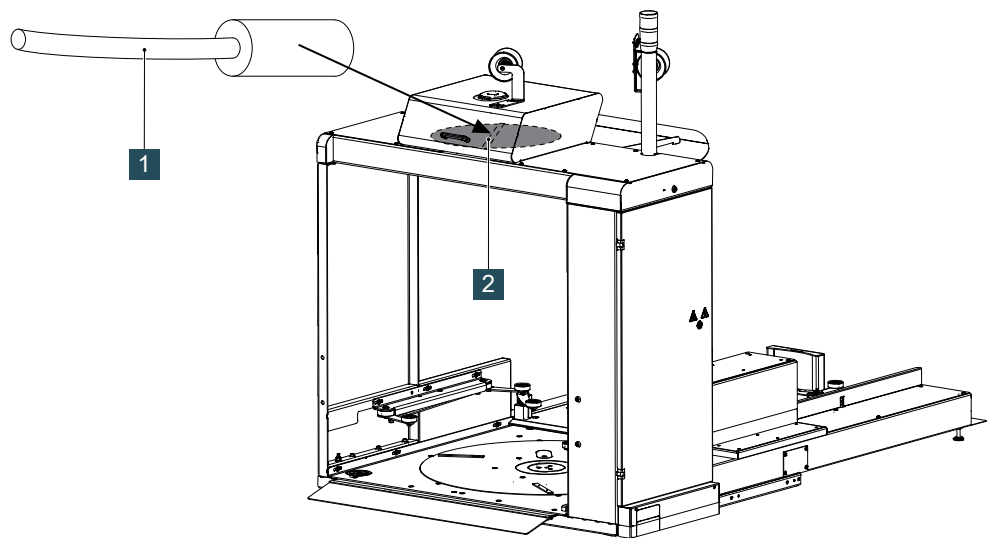


Figure 407: Coiler tube

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ A cleaning brush is to be used.
1. Examine if the coiler tube **2** is clogged.
 2. To remove the impurities from the coiler tube **2**, use the cleaning brush **1**.

Result The coiler tube is cleaned.

9.8.9 Examining the Bottom Feed Channel

Prerequisites Make sure that the criteria are obeyed:

- ✓ The machine is in operation.
1. Open the folding door at the left side of the machine.
 2. Examine the batt condition in the bottom feed channel through the window.

3. If the batt condition in the bottom feed channel is like **1**, remove the blockage in the transition channel.

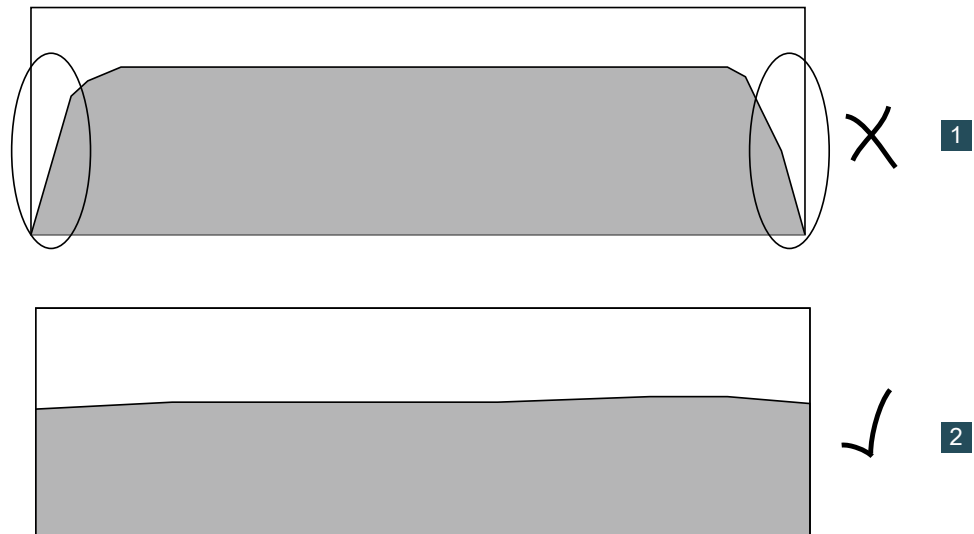
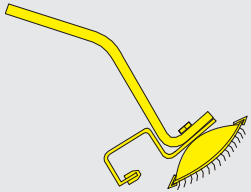


Figure 408: Batt in the bottom feed channel

Result The batt condition in the bottom feed channel is examined.

9.8.10 Cleaning the Doffer

Tool	Tool Name	Function Description
	Hand striper	The hand striper is used to clean the clothing of machine components such as the doffer clothing and the card flats clothing.

Prerequisites Make sure that the criteria are obeyed:
 ✓ A hand striper is to be used.



WARNING

Turning doffer!

Hand injuries

- Do Not go into the area of the doffer.
- Make sure that only approved personnel clean the doffer.

1. Stop the doffer.
2. Remove the suction pipe above the doffer.
3. Remove the cover plate **1**.

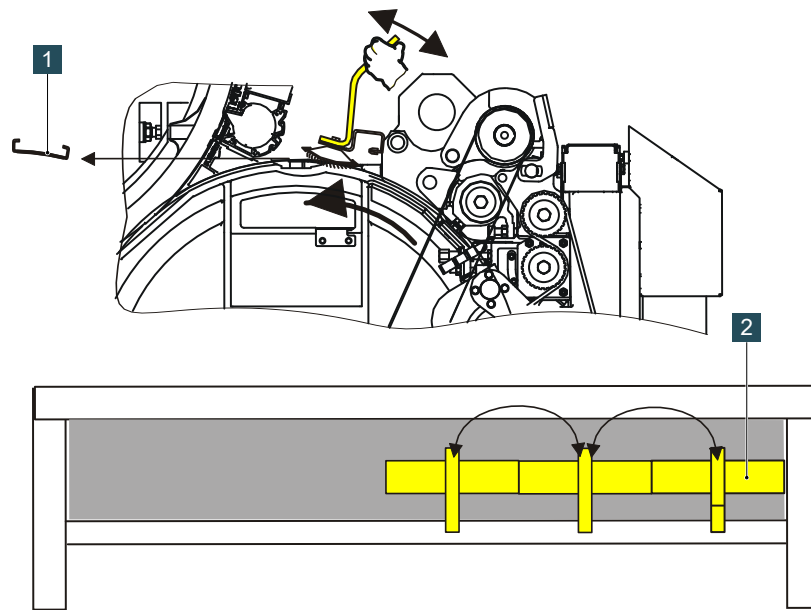
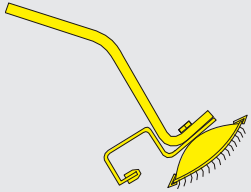
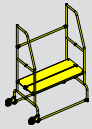


Figure 409: Doffer unit

4. Start the doffer at low speed.
5. **WARNING! Turning doffer! Hand injuries.** Clean the card flat clothing in sections with hand stripper **2** from the side of the machine.
6. To clean the doffer, push down the hand stripper **2** on the doffer for some seconds.
 - ⇒ The cleaning is done in some turns of the doffer.

Result The doffer is cleaned.

9.8.11 Cleaning the Card Flat Clothing

Tool	Tool Name	Function Description
	Hand stripper	The hand stripper is used to clean the clothing of machine components such as the doffer clothing and the card flats clothing.
	Movable platform	--

Prerequisites Make sure that the criteria are obeyed:

- ✓ A hand stripper is to be used.
- ✓ An industrial vacuum cleaner is to be used.
- ✓ A movable platform is to be used.

1. Open the front cover **1**.

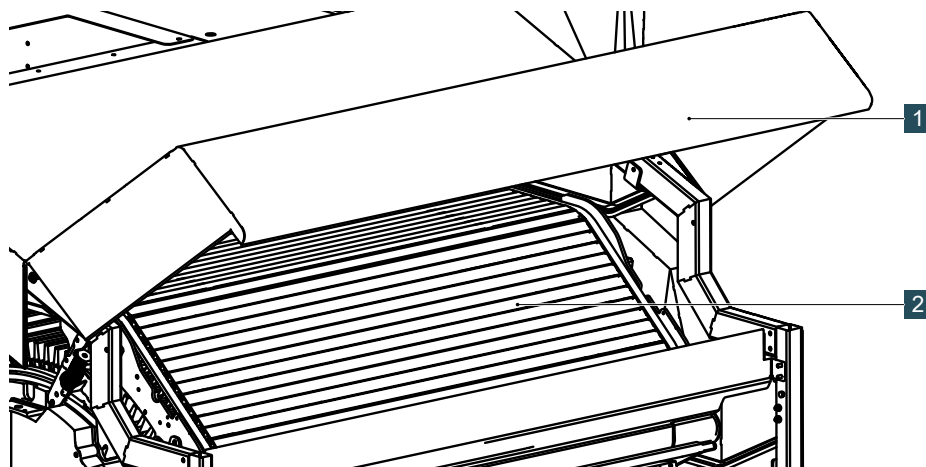


Figure 410: Cleaning the flats clothing

2. Clean the card flat clothing **3** with the industrial vacuum cleaner.
3. Remove the caught material between the card flat clothing **3** with the hand stripper.

Result The card flat clothing is cleaned.

9.8.12 Cleaning the Deflection Areas of the Card Flats

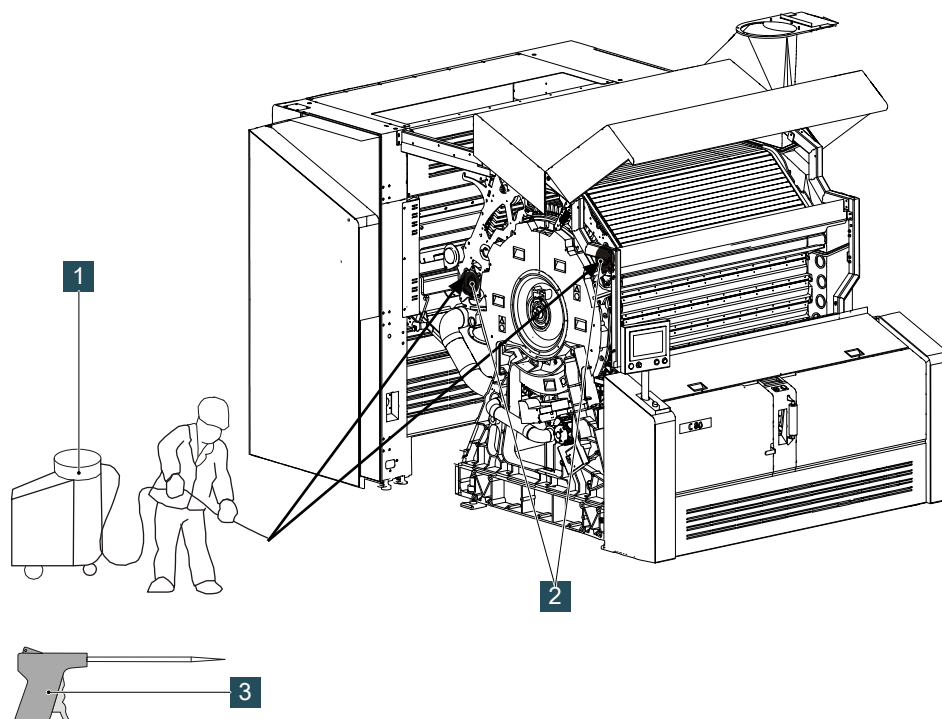


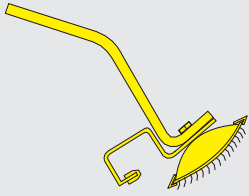
Figure 411: Cleaning the deflection roller

Prerequisites Make sure that the criteria are obeyed:

- ✓ An industrial vacuum cleaner is to be used.
 - ✓ A roller picker is to be used.
1. Examine the deflection areas **2** of the card flats.
 2. To clean the deflection areas **2** of the card flats, use the industrial vacuum cleaner **1**.
 3. To remove the material from the clogged deflection areas, use the roller picker **3**.

Result The deflection areas of the card flats are cleaned.

9.8.13 Cleaning the Clearer Roller PW1

Tool	Tool Name	Function Description
	Hand stripper	The hand stripper is used to clean the clothing of machine components such as the doffer clothing and the card flats clothing.

Prerequisites Make sure that the criteria are obeyed:

- ✓ A hand stripper is to be used.
- ✓ An industrial vacuum cleaner is to be used.



WARNING

Turning clearer roller!

Risk of injuries because hands become pulled in between the clearer rollers

- Examine the operating status of the machine.
- Clean the clearer roller carefully.



NOTICE

Incorrect cleaning procedure!

Clothing damage

- To prevent the axial movement of the cleaning tool from damaging the clothing, only clean the clearer roller PW1 radially.

1. Open the cover **1**.

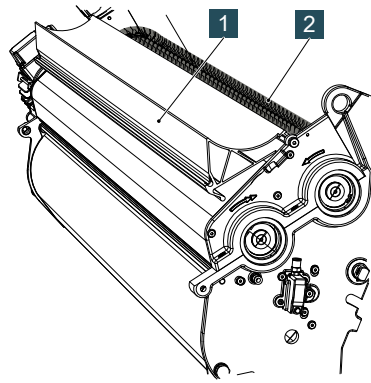


Figure 412: Clearer roller PW1

2. **WARNING! Turning clearer roller! Risk of injuries because hands become pulled in between the clearer rollers.** To clean the clearer roller **2**, use the hand stripper and the industrial vacuum cleaner.
3. Set the main switch to the position ON.
4. Enter the password in the level 3.
5. Select the operating mode **Test mode** in the data screen 4.1.5 **Operating mode switchover**.
6. Select the data screen 4.2.5.7 **Test, clearer roller, flats**.
7. Select **Yes** in **Run drive tests**.
8. Push and hold the start button until the clearer roller turns a 1/3 turn.
⇒ The other side of the clearer roller that is not cleaned is open to access.
9. Clean the clearer roller of the opposite side.
10. Do the same procedure again until the full clearer roller is cleaned.
11. Set the main switch to the position OFF.
12. Close the cover **1**.

Result The clearer roller PW1 is cleaned.

9.8.14 Cleaning the Suction Duct

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

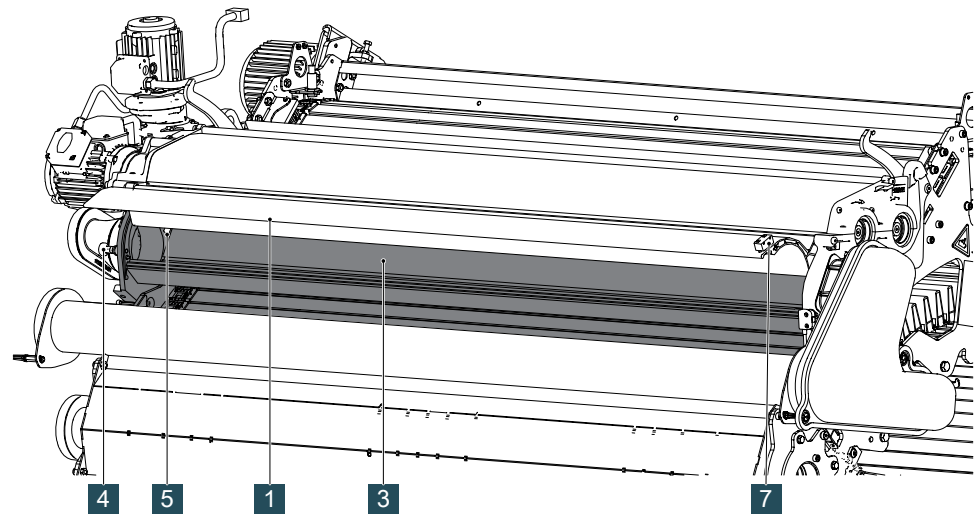


Figure 413: Cleaning the suction channel

1. Pull back the bolt **4**.
2. Open and hold the cover **1**.
⇒ The production is stopped by the safety sensor **7**.
3. Wait until the clear roller PW2 is at a standstill, clean the suction duct **3**.
4. Clean the mirror **5** and the sensor.
5. To close the cover **1**, pull the bolt **4** to fix the cover **1**.

Result The suction duct is cleaned.

9.8.15 Cleaning the Flat Shoes Brush

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. At 2 sides of the machine, examine if the fibers hangs on the flat shoes brush **1**.

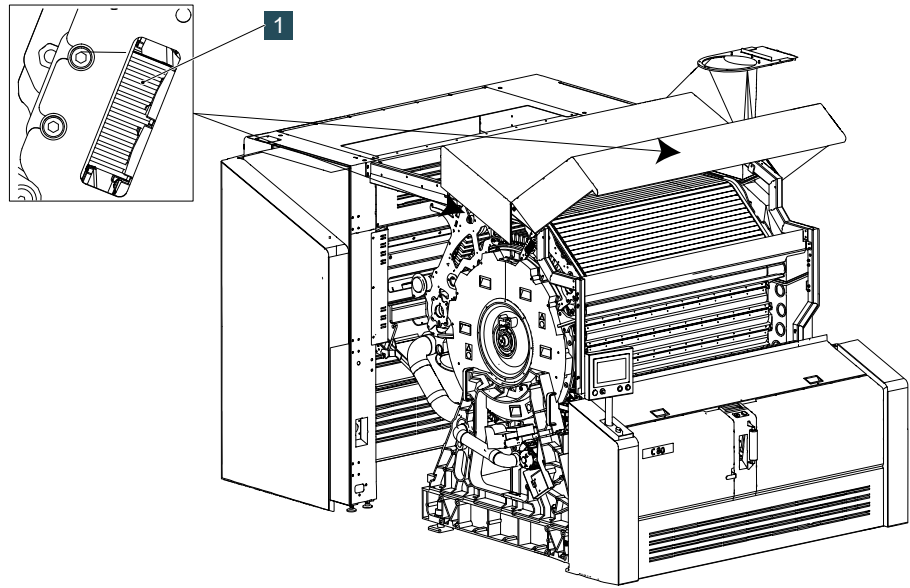


Figure 414: Cleaning the flat shoe brush

2. Remove the screws **2** to remove the flat shoes brush **1**.
3. Remove fibers from the brush.
4. Install the flat shoes brush **1** to the machine.

Result The flat shoes brushes are cleaned.

9.8.16 Cleaning the Drive Belts

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. Doing the inspection of all drive belts.
 2. Cleaning the belts if necessary.

9.8.17 Cleaning the Gap Between the Doffer and the Shield

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ The compressed air is to be used.
1. Remove the top cover **1** of the doffer.

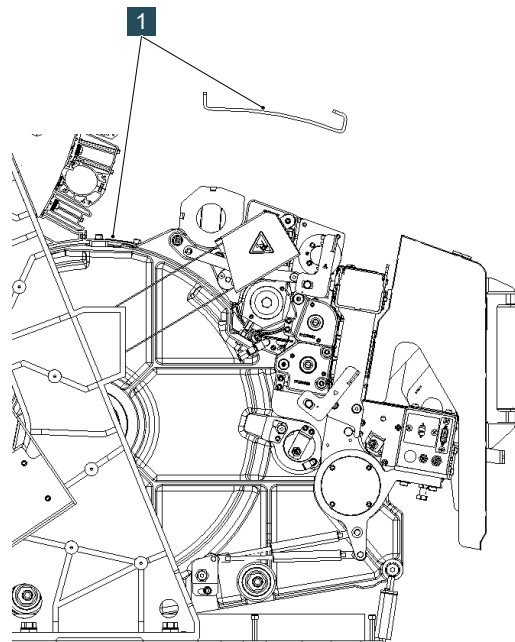


Figure 415: Removal of the top cover of the doffer

2. Remove the front cover of the delivery unit.
3. At the bottom of the doffer, remove the doffer cover (refer to ► 754).
4. Clean the doffer cover if necessary.
5. At 2 sides of the machine, check the material accumulation in the gap **2** between the doffer and the shield.

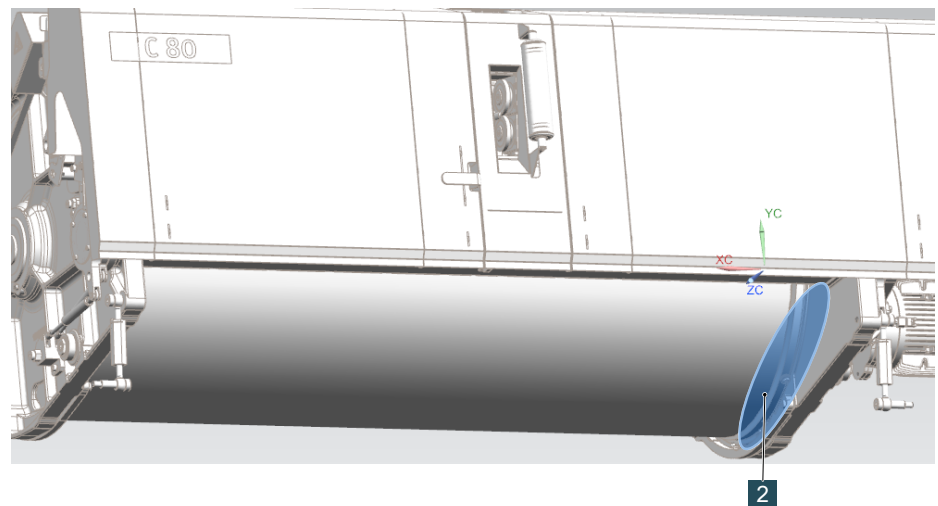


Figure 416: Cleaning the gap between the doffer and shield

6. From the top side of the machine, use the compressed air to blow material accumulation away from the gap **2**.
7. Install the doffer cover.

8. Install the front cover of the delivery unit.
9. Install the top cover **1** of the doffer.

Result The gap between the doffer and the shield is cleaned.

9.8.18 Cleaning the Card Flat Heads

Prerequisites Make sure that the criteria are obeyed:

- ✓ A vacuum cleaner is to be used.
1. Do a check of the card flat heads **1** for contamination.

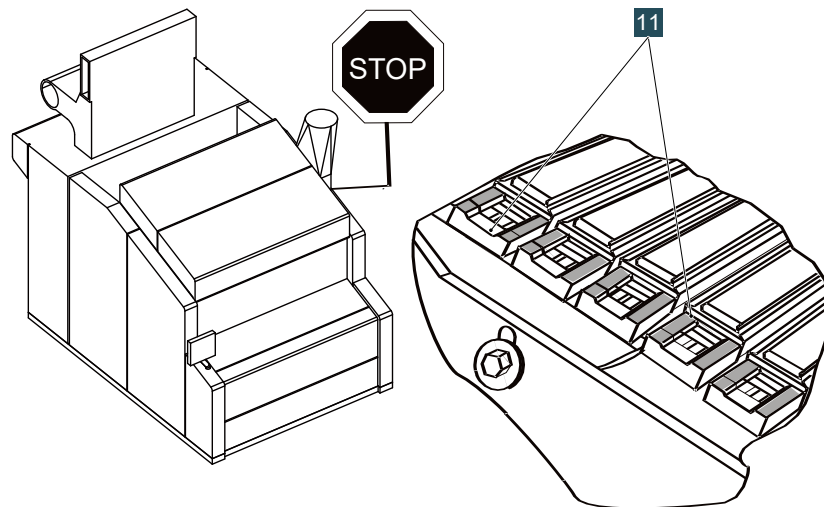


Figure 417: Card flat heads

2. Clean the card flat heads **1** with a vacuum cleaner or a dry cloth.
3. Do not clean the card flat heads **1** with cleaning agent or lubricant.

Result The card flat heads are cleaned.

9.8.19 Cleaning the Inside of the Cylinder

Prerequisites Make sure that the criteria are obeyed:

- ✓ An industrial vacuum cleaner is to be used.
1. At the 2 sides of the machine, open the folding doors.
 2. Remove 4 covers **1** of the cylinder.

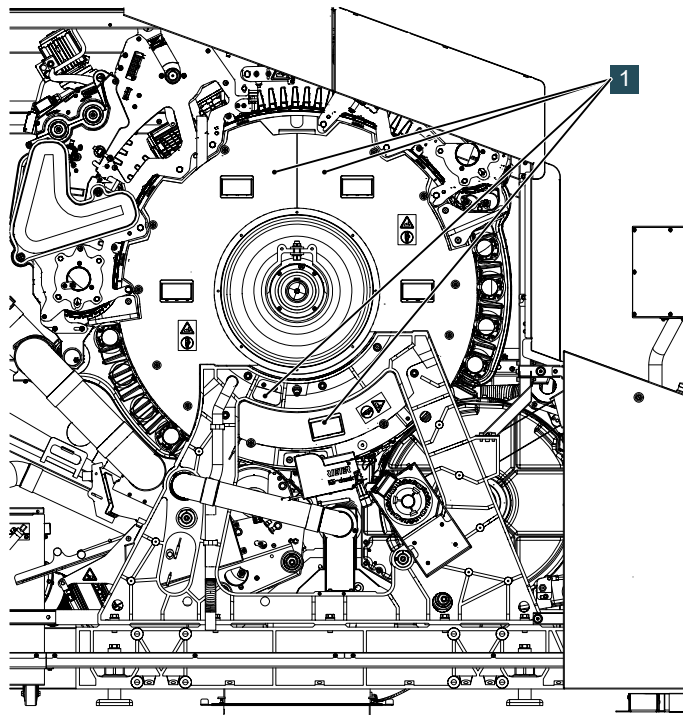


Figure 418: Covers of cylinder

3. Examine the inside of the cylinder through the opening **2**.

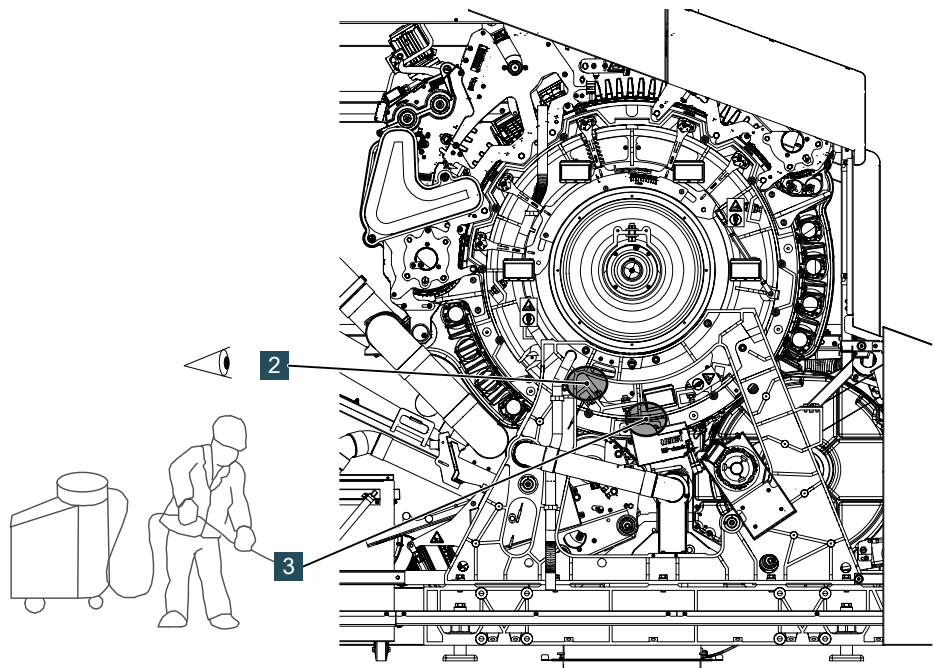


Figure 419: Access to inside of the cylinder

4. Clean the inside of the cylinder through the openings **3** with the industrial vacuum cleaner.

Result The inside of the cylinder is cleaned.

9.8.20 Cleaning the Carding Profiles

Prerequisites Make sure that the criteria are obeyed:

✓ A knife is to be used.

1. Remove all carding profiles **2**.

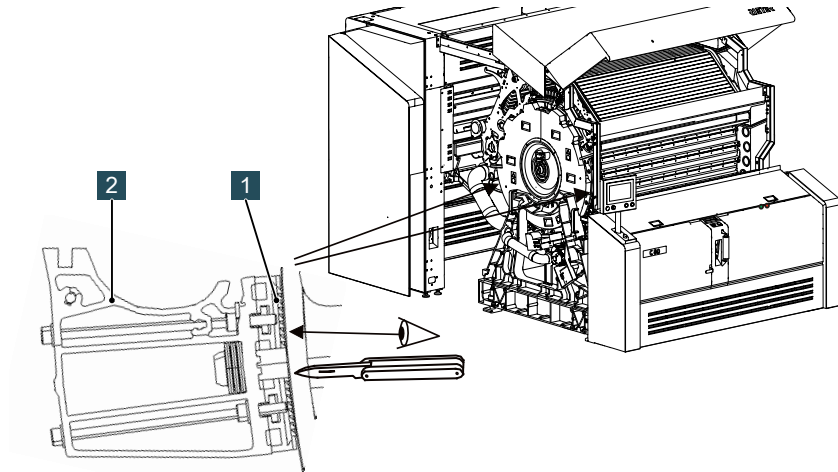


Figure 420: Cleaning the carding profiles

2. Check the condition of the clothing strips **1**.
3. Clean the clothing strips **1** with the knife.
4. Install the carding profiles **2**.
5. To prevent to adjust the carding profiles again, make sure that every carding profile is installed back at the location where it was removed.
6. Make sure that the direction of the clothing teeth is correct according to the setting sheet (refer to ► 853).

Result The carding profiles are cleaned.

9.8.21 Cleaning the Coiler Drive and the Can Plate Drive

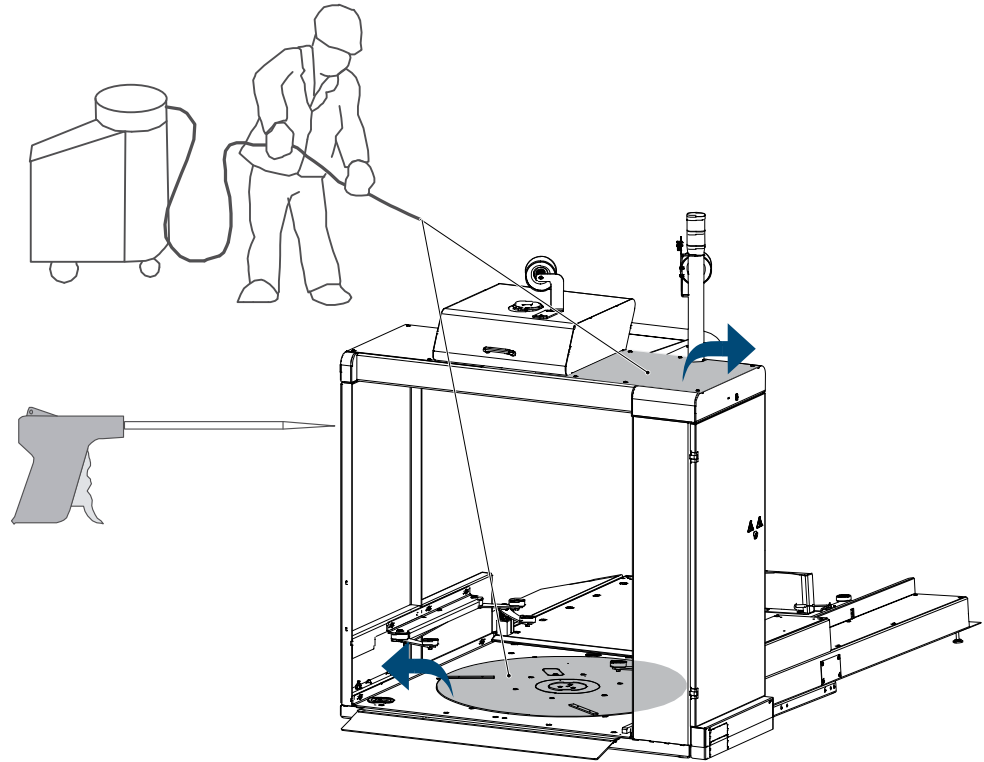


Figure 421: Cleaning the coiler drive and the can plate drive

Prerequisites Make sure that the criteria are obeyed:

- ✓ A vacuum cleaner is necessary.
- 1. Remove the contamination with a vacuum cleaner.
- 2. Remove jammed material with the roller picker.

Result The rotary plate and the can plate drives are cleaned.

9.9 Lubrication Work

This section contains the information about the lubrication works at the machine.

9.9.1 Lubricating the Cylinder Bearings

Lubrication nipple - cylinder

NLGI 2/1 (EP2) – Semi-synthetic grease

4 strokes

Prerequisites Make sure that the criteria are obeyed:

- ✓ A semi-synthetic grease with a consistency class (NLGI) of 2/1 is to be used.
- ✓ A grease gun is to be used.
- 1. At the 2 sides of the machine, open the folding doors.

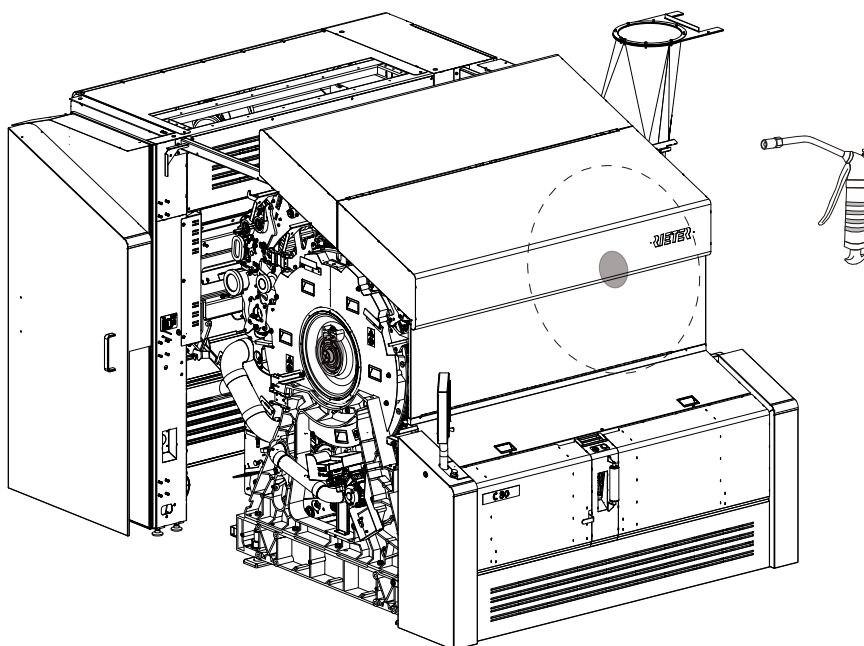


Figure 422: Lubricating the cylinder bearings

2. To apply approximately 4 strokes of the semi-synthetic grease to the cylinder bearings **1** on 2 sides of the machine, use the grease gun **2**.

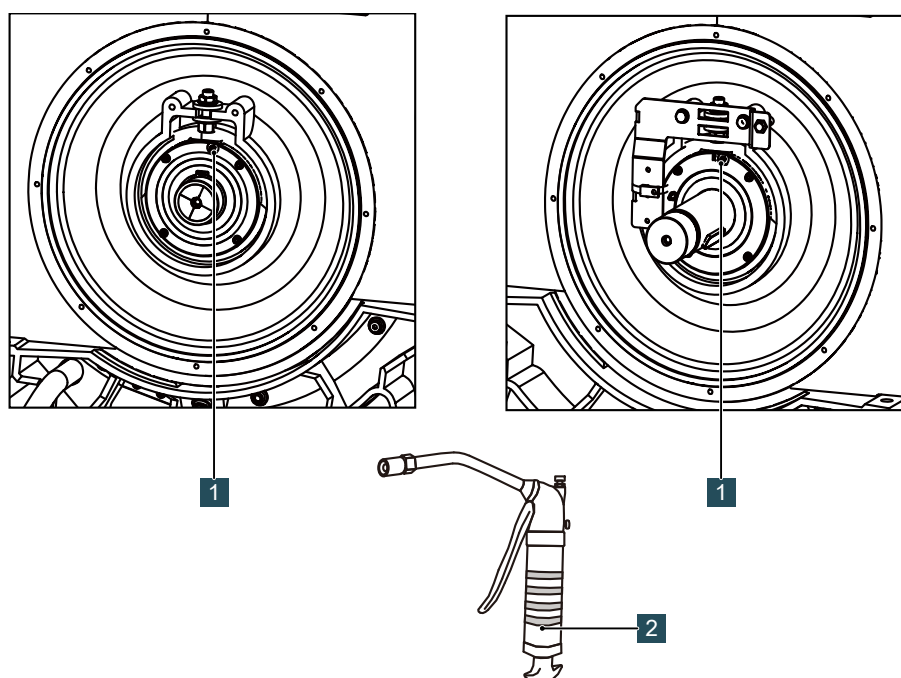


Figure 423: Lubricating points

3. Close the folding doors.

Result The cylinder bearings are lubricated.

9.10 Inspection Work

This section contains the information about the inspection work at the machine.

9.10.1 Doing the Inspection of the Grinding Stone

Prerequisites Make sure that the criteria are obeyed:

- ✓ A vernier caliper is to be used.



CAUTION

Moving parts!

Hands injury because of the moving belt and grinding stone

- Make sure that the belt and the grinding stone are at a standstill when the safety cover is removed.
- Do NOT touch the moving parts.

Examining the Wear of the Grinding Stone

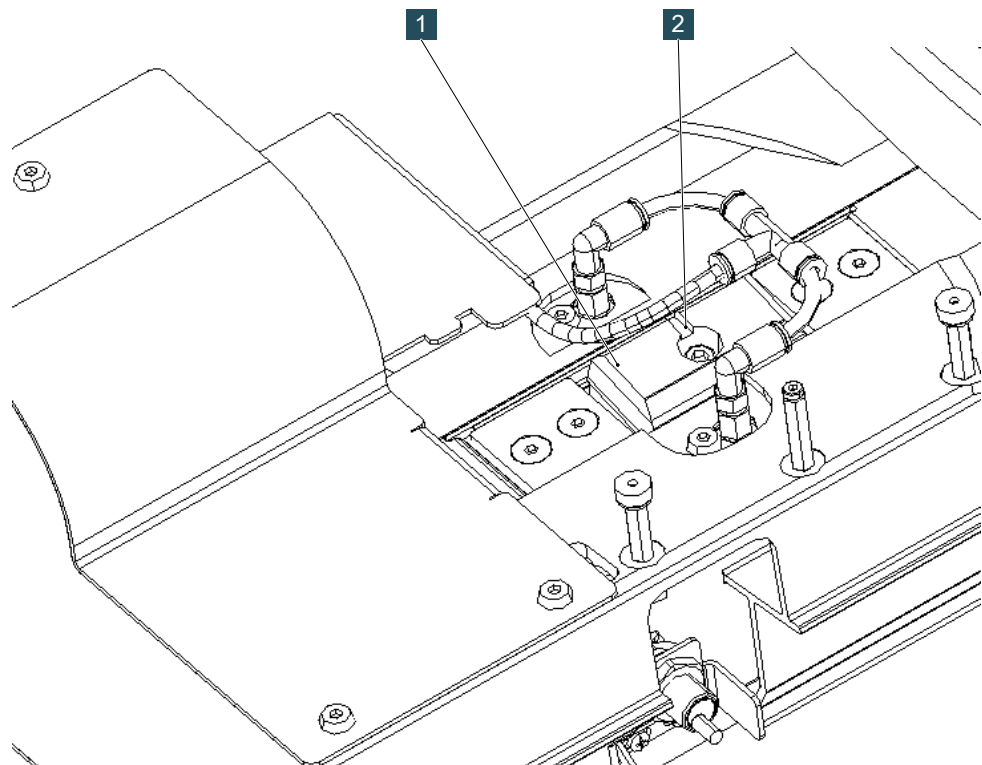


Figure 424: Grinding stone of the IGS-classic

1. **CAUTION! Moving parts! Hands injury because of the moving belt and grinding stone.** Remove the safety cover of the IGS-classic device.
2. Examine the grinding stone carefully.
3. Replace the grinding stone, if there is a wear to the groove 2.

4. Continue the grinding operation with the grinding stone, if the groove **2** is not worn fully.

Continuing the Grinding Procedure

1. Select the data screen 4.1.3.3 **Maintenance IGS clothings** .
2. Select the function **Stone OK** in the field **Inspecti.of grindstone** .
 - ⇒ 80 grinding cycles are added in the initial grinding cycle.
 - ⇒ 606 IGS-cl. max. grinding cycles reached.
 - ⇒ After consuming the grind cycle 5 times. No more grinding cycles are added.
3. Replace the grinding stone.
4. Select the data screen 2.3.1.3 **IGS settings** .
5. Set the operation **Contin. grinding** in the field **End of service life**.
 - ⇒ The grinding continues, until 2 times of the cycles of the initial value is done but maximum 400 cycles.

Result The grinding of stone is done.

9.10.2 Examining the Feed Roller Suction

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
1. Go into the area between the card chute and the card.
 2. Examine if fibers are between the feed roller and the knife suction device.
 3. If the area **1** is blocked with fibers, clean the feed roller suction.

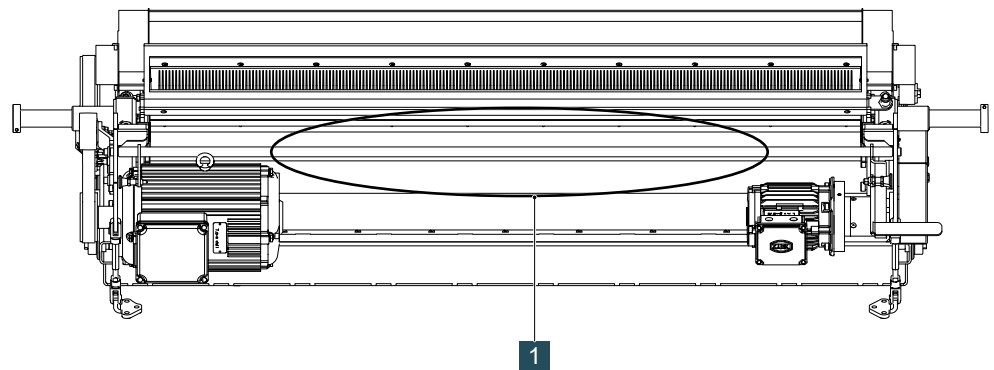


Figure 425: Feed roller suction

Result The feed roller suction is examined.

9.10.3 Visual Inspection for the Clearer Roller PW2

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

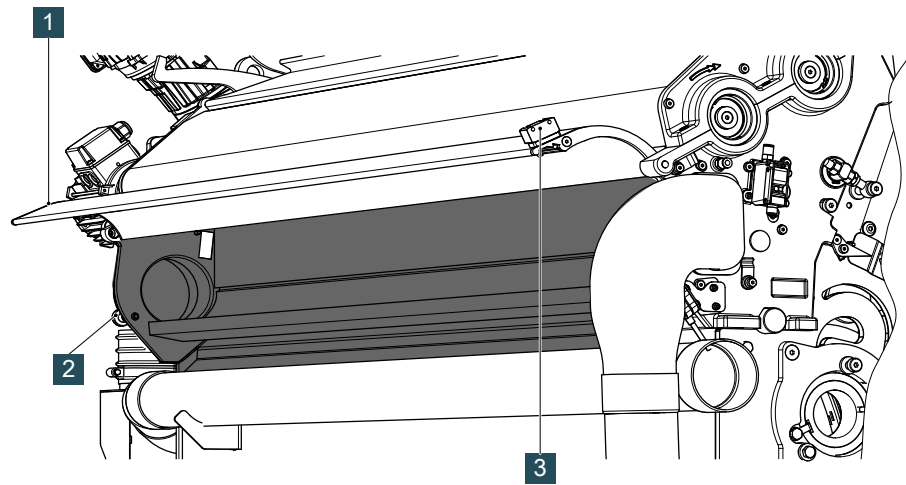


Figure 426: Clearer roller PW2

1. Pull back the bolt **2**.
2. Open and hold the cover **1**.
⇒ The machine is stopped by the safety sensor **3**.
3. Do the visual inspection for the clearer roller PW2.
4. If the clearer roller PW2 is clean and without any fiber on it, the clearer roller PW2 is in a good condition.
5. If the clear roller PW2 contains fibers between the needles, replace the clothing (*refer to ► 873*).

Result The visual inspection for clearer roller PW2 is done.

9.10.4 Doing the Function Test of the Safety Relay

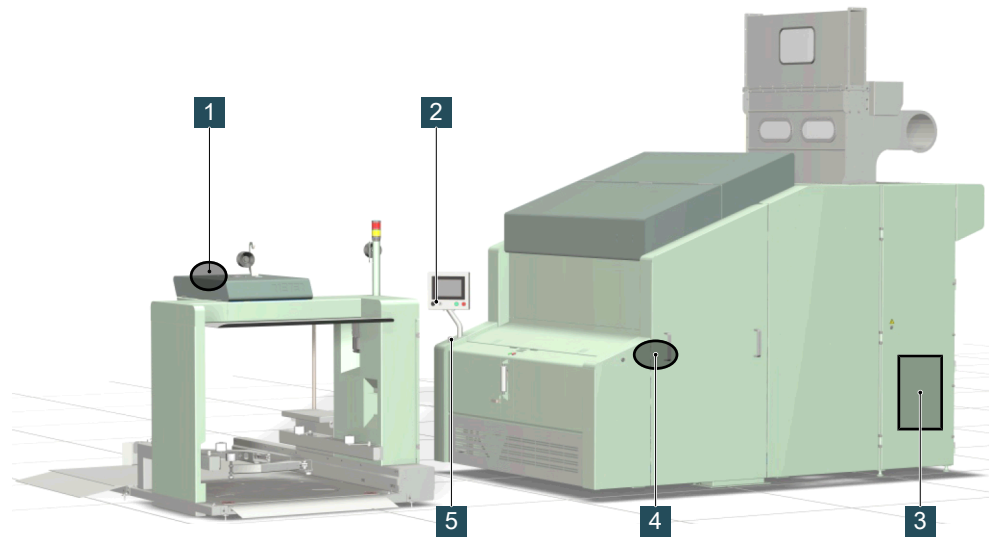


Figure 427: Safety elements

1	Hood lock at the sliver coiling device	2	Key switch
3	Frequency converter	4	Door lock at the folding door at right side
5	Emergency stop button		

1. Set the main switch to the position ON.
2. Make sure that the machine is ready for the operation.
⇒ The message **Ready to start** is shown.
3. Examine the elements for the correct operation.
4. If the elements **1**, **2**, **3**, **4**, and **5** operate correctly, enter the function test in the protocol.
5. If 1 element of the elements **1**, **2**, **3**, **4**, and **5** does not operate correctly, replace the full unit where this defective element is a part of and do the function test of the replaced unit.

Doing the Function Test of the Emergency Stop Button

1. Push the emergency stop button.
⇒ The status message 368 **Emergency stop button card S8** is shown.
⇒ The result of the function test is OK.
2. Unlock the emergency stop button.
⇒ The message **Ready to start** is shown.
⇒ The function test of the emergency stop button is done.

Doing the Function Test of the Safety Relay “Watchdog”

4.2.4 Test of Door Saf. Devices & watchdog		14:13:37
8106 Machine not ready		
Execute tests	No	Unlock door S18 0
Door safeguard card S18		1
Door monitoring relay card K22		0
Monitoring watchdog relay K20		1

Figure 428: Data screen 4.2.4 test, door saf. devices and watchdog

Prerequisites Make sure that the criteria are obeyed:

- ✓ The authorization level 3 is selected.
 - ✓ The operating mode **Test mode** is selected in the data screen 4.1.5 **Operating mode switchover**.
1. Select the data screen 4.2.4 **Test, door saf. devices + watchdog**.
 2. Start the function test in the field **Execute tests**.
 - ⇒ The function test is started.
 3. Select **Yes** to active the test function.
 4. Push the stop button.
 - ⇒ The safety relay K20 change to the state 0.
 - ⇒ The state of the field **Door monitoring relay card K22** changes to 1.
 5. Push the start button.
 - ⇒ The safety relay K20 change to the state 1.
 - ⇒ The state of the line **Door monitoring relay card K22** changes to 0.
 - ⇒ The result of the function test is OK.
 - ⇒ The function test of the safety relay Watchdog is done.

Doing the Function Test of the Frequency Converter

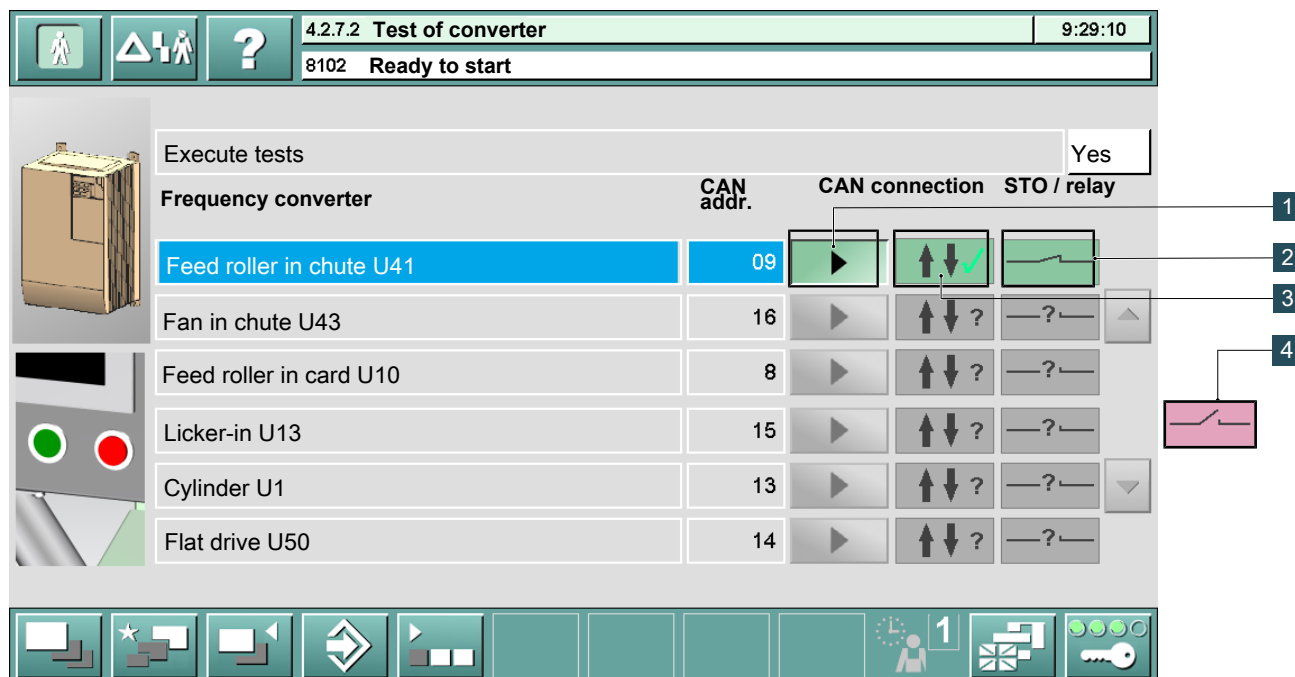


Figure 429: Data screen 4.2.7.2 test inverter

Prerequisites Make sure that the criteria are obeyed:

- ✓ The authorization level 3 is selected.
- ✓ The operating mode **Test mode** is selected in the data screen 4.1.5

Operating mode switchover.

1. Select the data screen 4.2.7.2 **Test converter**.
2. Select the option **Execute tests**, in the field **Yes**.
 - ⇒ The function test is active.
3. To select the frequency converter for the function test, tap the forward key.
 - ⇒ The field with the selected frequency converter is highlighted.
4. To start the function test, tap the play key **1**.
 - ⇒ The message **Establishing connec. to converter...** is shown.
5. Wait for some seconds.
 - ⇒ The frequency converter sends the confirmation of the connection signal.
 - ⇒ The green check mark shown like the icon **2**, the connection is OK.
6. Push the start button.
 - ⇒ The icon for **STO / relay** shown like the icon **4**.
 - ⇒ The result of the function test is OK

7. Push the stop button.

- ⇒ The icon for **STO / relay** shown like the icon **3**.
- ⇒ The result of the function test is OK.

Doing the Function Test of the Key Switch for the Card Flat Grinding

1. Turn the key switch to the position II.
 - ⇒ The status message 306 **Relay monitoring, card service K23** is shown.
2. Turn the key switch to the position I.
 - ⇒ The message **Ready to start** is shown.
 - ⇒ The result of the function test is OK.
 - ⇒ The function test of the key switch for card flat grinding is done.

Doing the Function Test of the Door Lock at the Folding Door

1. Open the folding door at the right side.
 - ⇒ The status message 380 **Door safeguard, driving side, card S18** is shown.
2. Close the door safeguard.
 - ⇒ The message **Ready to start** is shown.
 - ⇒ The result of the function test is OK.
 - ⇒ The function test of the door lock of the folding door at the right side is done.

Doing the Function Test of the Hood Lock at the Sliver Coiling Device

1. Open the hood lock.
 - ⇒ The status message 382 **Coiler, hood open S15** is shown.
2. Close the hood lock.
 - ⇒ The message **Ready to start** is shown.
 - ⇒ The result of the function test is OK.
 - ⇒ The function test of the hood lock at the sliver coiling device is done.

Result The function test of the safety relay is done.

9.11 Clothing Maintenance Work

This section contains the information about the maintenance work of cylinder clothing, card flat clothing, and doffer clothing.

9.11.1 Visual Inspection of the Clothing

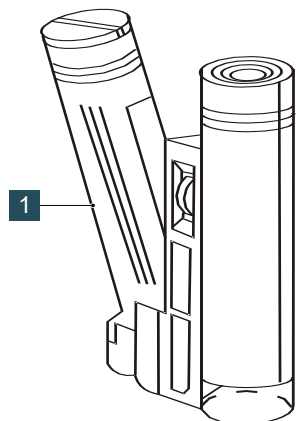


Figure 430: Visual inspection

The grinding of the cylinder clothing and the card flats is necessary, if the number of the neps is on the maximum side of the tolerance range.

The clothing points are examined with the magnifier **1** with the zoom capacity of 30 – 50x.

The Correctly Ground Tooth

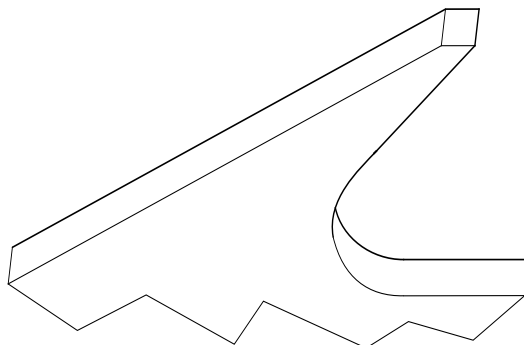


Figure 431: Correctly ground tooth

The diagram shows a correctly ground tooth, with sharp carding edge, good tooth shape and small visible grinding flutes on the tooth surface.

With this tooth, the clothing does the work correctly.

The Worn Carding Tooth Edge

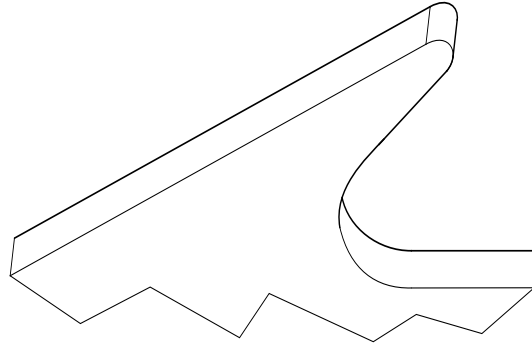


Figure 432: Carding tooth edge wear out.

The carding tooth edge is worn out if a smooth radius is seen on the tooth.
 Grinding of cylinder clothing is permitted if IGS-classic is not available.

The Worn Tooth Tip

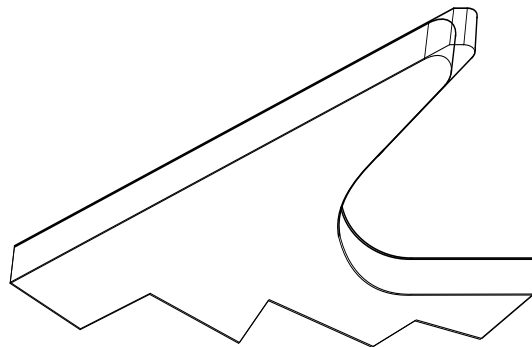


Figure 433: Worn tooth tip

The grinding is done on the radius of the tooth tip. The carding edge is not seen.
 Continue grinding the cylinder clothing for a short time.

The Tooth Tip with Brows

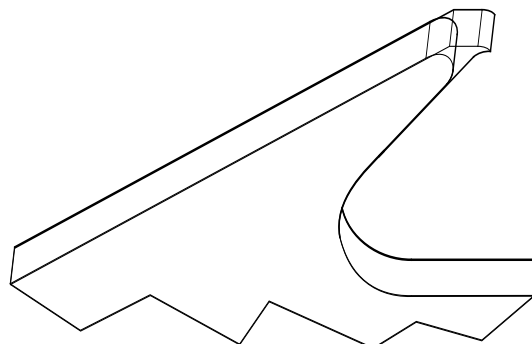


Figure 434: Tooth tip with brow

The cause for the brows is the grinding roller is not correctly pushed against the toothed points.

The Worn Tooth Edge

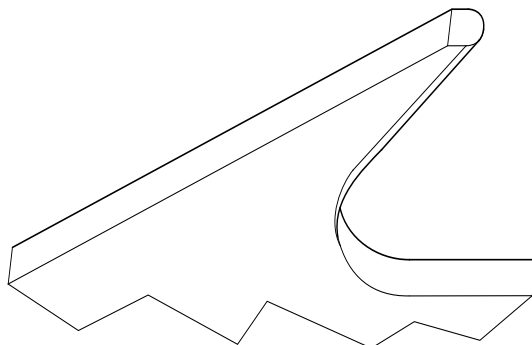


Figure 435: Tooth edge wears out.

The edge on the side is worn out, with formation of a radius.
If the radius forms, then it is necessary to replace the wire.

A Notch on the Body of the Tooth

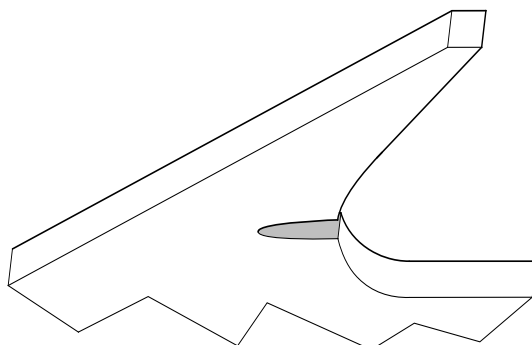


Figure 436: Notch on the tooth body

An impact can cause the notch on the tooth body.
If the notch is formed to the body of the tooth, then it is necessary to replace the wire.

A Notch on the Top of the Tooth

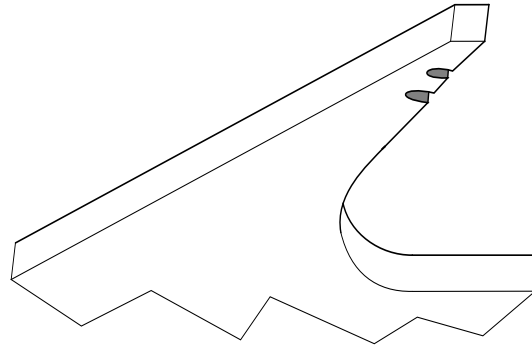


Figure 437: A notch on the top of the tooth

The fibers cause wear on the top of the tooth and notches are formed on the top of the tooth.

If the notch is formed to the body of the tooth, then it is necessary to replace the wire.

9.11.2 Card Flat Clothing

The card flat clothing must be ground and leveled according to the clothing condition.

Grinding

Card flat clothing must be ground as small as possible, but make sure that approximately 80 % of the needles are ground.

To sharpen the card flat clothing manually, Rieter recommends the flat grinding roller 'DSW' from Graf. See Doing the Grinding of the Card Flats

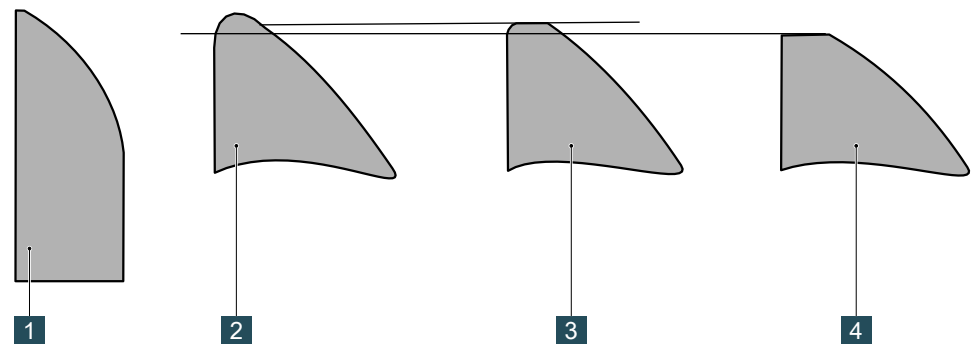


Figure 438: Grind needles

Call out.	Needle identification	Relation
1	New needle	The needle is sharp.
2	Worn needle	The needle does not work correctly.

Call out.	Needle identification	Relation
3	Insufficient number of ground needles	The needle is not sharp.
4	Correctly ground needle.	The needle is sharp again.

The worn needles of the card flat clothing are sharpened again by the grinding procedure. The length of time before this becomes necessary is related to the material, production rate, and quality requirements.

After the card flats grinding or leveling the needles are examined with the magnifying glass. A decision is made if the flats are necessary to be ground again.

Leveling (Equalize)

Through the leveling, only the projected points of card flat clothing are decreased. This leveling procedure is used to make the height of the card flat clothing equal.

To level the card flat clothing, Rieter recommends the flat leveling roller 'DEW' from Graf. See Doing the Leveling of the Card Flats at the Machine

A new clothed card flat is leveled before commissioning and approximate 15 t of production.

Compensation Device

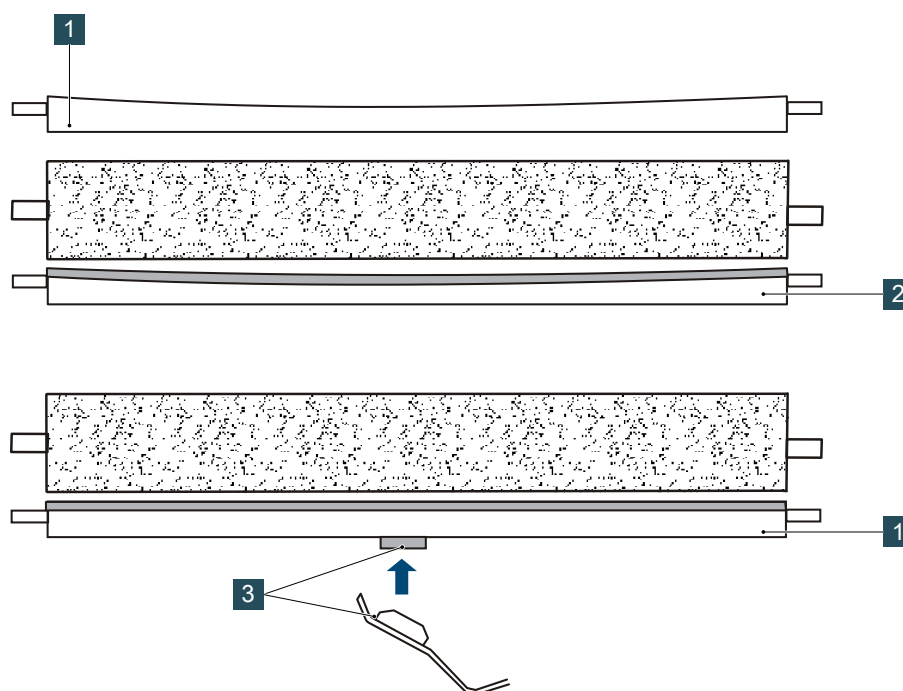


Figure 439: Hollow shape of the card flat rods

The card flat rods 1 without the card flat clothing 2 is made small hollow in the factory. Through the compensating device 3 the hollow made bodies 1 of the card flats are pointed straight.

After grinding without compensation device, the card flats are back to the initial position. The card flats are small hollow again.

9.11.2.1 Starting the Card Flat for Grinding Operation

- Prerequisites** Make sure that the criteria are obeyed:
- ✓ The machine is prepared to grind the card flat (refer to).
 - 1. Select the data screen 4.1.5 **Operating mode change** .
 - 2. Select the operating mode as **Service mode**.
 - ⇒ The card flat can be ground in the menu 4.1.6.
 - 3. Select the data screen 4.1.6.3 **Service of flats and clothing** .
 - 4. Enter the action as **Flats grinding** in **Carry out servicing**.
 - 5. Push the start button to start the card flat.
 - 6. Push the stop button to stop the card flat.

Setting the Lowest Speed for Grinding

1. Select the data screen 4.1.6.3 **Service of flats and clothing**.
2. Enter the speed as 0.25 m/min in **Target speed for flats**.

Result The card flat is started for grinding operation.

9.11.2.2 Preparing the Machine for Grinding or Leveling the Card Flats

This section is about the preparations for grinding or leveling the card flats.

9.11.2.2.1 Setting the Machine to the Card Flats Grinding Mode

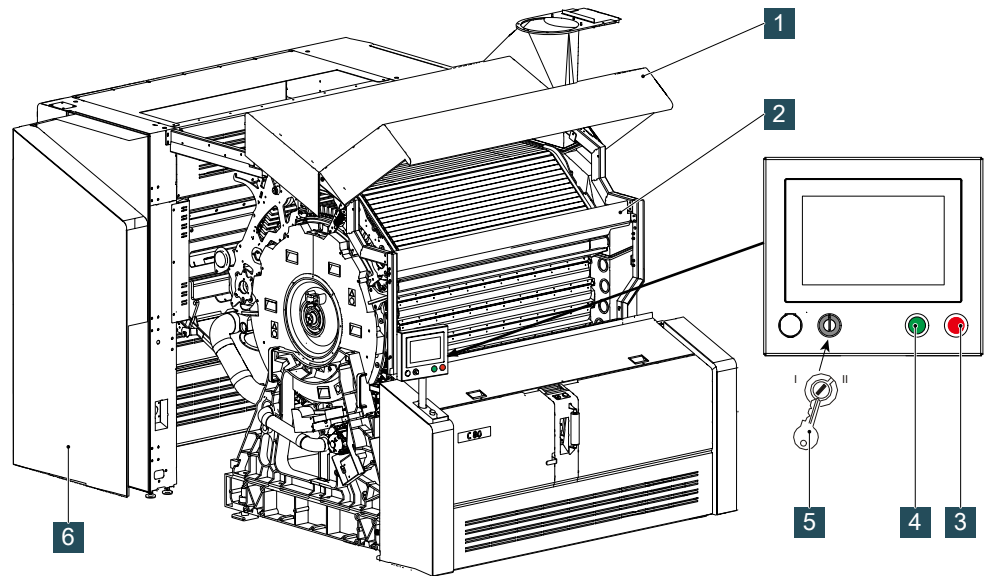


Figure 440: Preparation of the machine for the card flats grinding

1. Push the stop button **3** to stop the card.
2. Clean the machine.
3. Prepare the DSW or DEW supplied by Graf.
4. Turn the key switch **5** to the position II as shown in the figure.
⇒ The safety switch of the folding door at the left side is unlocked.
5. Open the folding doors **6** on 2 sides of the machine.
6. Open the front hood **1**.
7. Remove the front cover **2**.
8. Install the DSW or DEW on card (refer to the operation manual from Graf).
9. Make sure that all necessary supplies are prepared before the grinding operation.

Result The machine is prepared for the card flats grinding.

Starting the Card Flats for the Grinding

Prerequisites Make sure that the criteria are obeyed:

- ✓ The key switch is turned to position II for grinding operation.
1. Select the data screen 4.1.5 **Operating mode change**.
 2. Select the operating mode **Service mode**.
 3. Select the data screen 4.1.6.3 **Service of flats and clothing**.
 4. Enter the action **Flats grinding** in the field **Carry out servicing**.
 5. Push the start button **4**.
⇒ The card flats start to move.

6. Push the stop button **3**.

⇒ The card flats stop.

Setting the Speed for Grinding

1. Select the data screen 4.1.6.3 **Service of flats and clothing**.
2. Enter the speed as 0.25 m/min in the field **Target speed for flats**.
⇒ The lowest speed for grinding is set.

Result The machine is set to the card flats grinding mode.

9.11.2.2.2 Installing the Tools for Grinding or Leveling the Card Flats

Flat System with Clip	Distance of the Counterweight
Type: GA (general application)	303 mm
Type: EF (extra fine)	243 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ A compensation device is to be used.
- ✓ A belt brake is to be used.

1. Open the front hood.
2. Remove the front cover **7**.

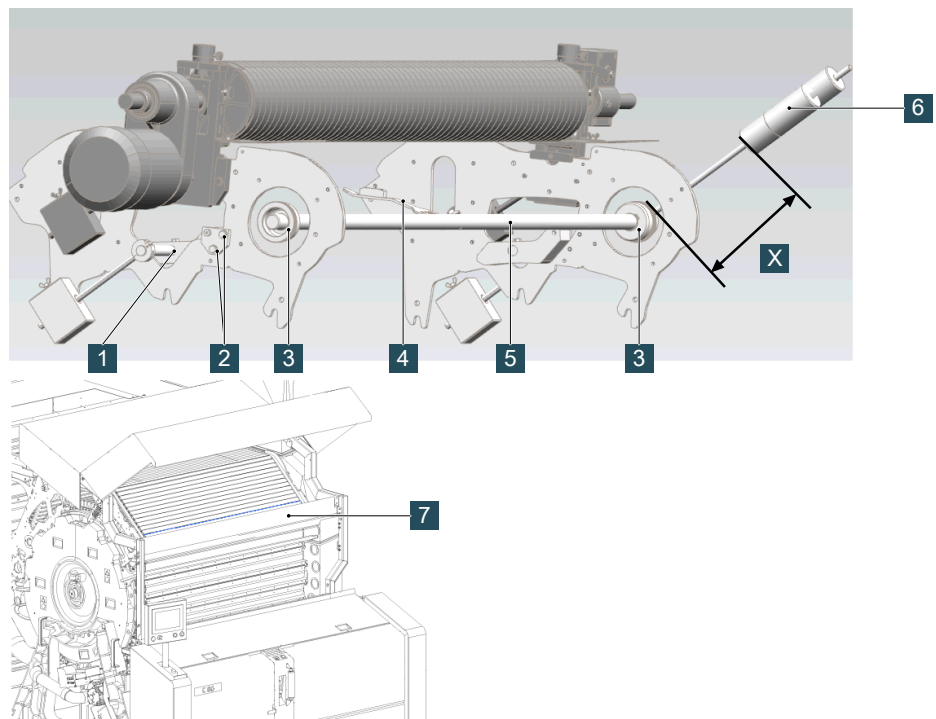


Figure 441: Preparation for grinding or leveling the flats

3. Remove 5 sets of card flats (refer to ► 791).

4. Push the rod **5** through the deflection pulleys in front.
5. Install the bearing bushings **3** at the left side of the machine.
6. Examine the mark on the lever **4**.
⇒ The mark of the level **4** is C80.
7. Install the lever **4** to the rod **5** with screw.
8. Install the counterweight **6**.
9. Adjust the distance **X** between the counterweight **6** to the bearing bushing **3** related to the type of a card flat used as given in the table.
⇒ The compensation device is installed.
10. Install the belt brake **1** through the opening of the front frame on 2 sides of the machine.
11. Tighten the screws **2** of the belt brake.
⇒ The belt brakes are installed.

Result The tools for grinding or leveling the card flats are installed.

9.11.2.3 Grinding or Levelling Card Flats at the Machine

Refer to the manual from Graf to get more information about how to levelling the card flats with Graf DSW

Prerequisites Make sure that the criteria are obeyed:

- ✓ Make sure that the spot grinding is done.
- 1. Grind 1 - 2 turn with minimum infeed (refer to the operating manual from Graf to get more information about how to grinding the card flats).
- 2. Examine the grinding result with the magnifying glass.
- 3. Calculate the number of needles sharpened freshly.
- 4. If less than 80 % of the needles have a freshly ground edge, do the grinding again.
- 5. Grind again 1 - 2 turn with minimum feed.
⇒ If 80 % of the needles have a freshly ground edge, then the necessary grinding result is got.

Setting the Counter after Grinding

1. Set the machine on test mode.
2. Select the data screen 4.1.3.1.
3. Enter the counter value as 0 t in the **Flats grinding**.
⇒ The counter is set.

9.11.2.4 Adjusting the Deflection Elements before the Removal

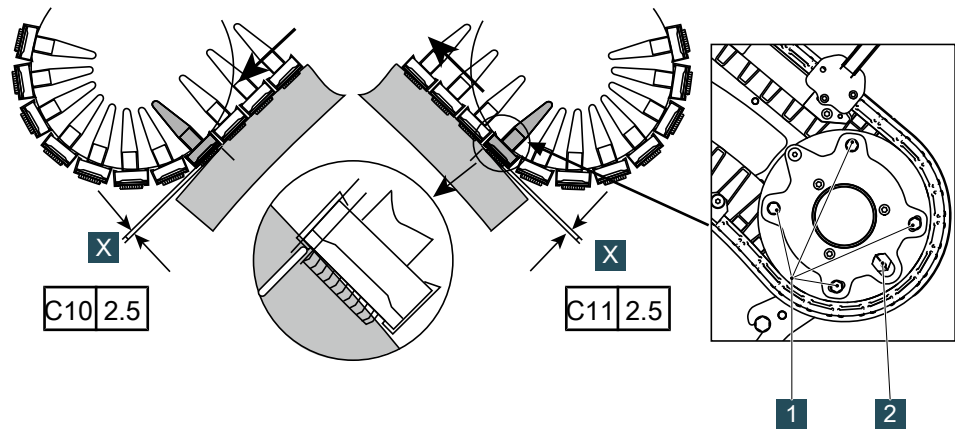
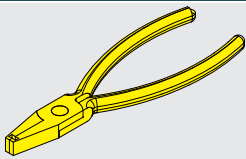


Figure 442: Adjustment of the deflection element for flats removal

1. Loosen the screws **1** of all 4 deflection pulleys.
2. Turn the eccentric **2** to set the safety distance **X** for measuring point C10 and C11.
 - ⇒ The value of the safety distance **X** is 2.5 mm.
 - ⇒ The distance **X** is sufficiently large that collision does not occur during the card flats removal.
3. Tighten the screws **1**.

Result The card flats or individual card flat are prepared for the removal.

9.11.2.5 Removing the Retaining Clips of the Card Flats

Tools	Tool	Tool Name	Function Description
		Nipper	The nipper is used to remove the retaining clips from a flat rod.

Prerequisites Make sure that the criteria are obeyed:

- ✓ A nipper is to be used.
 - ✓ The lubrication blocks are removed at 2 sides of the machine.
1. Clamp and level the retaining clip **1** with the nippers **2**.

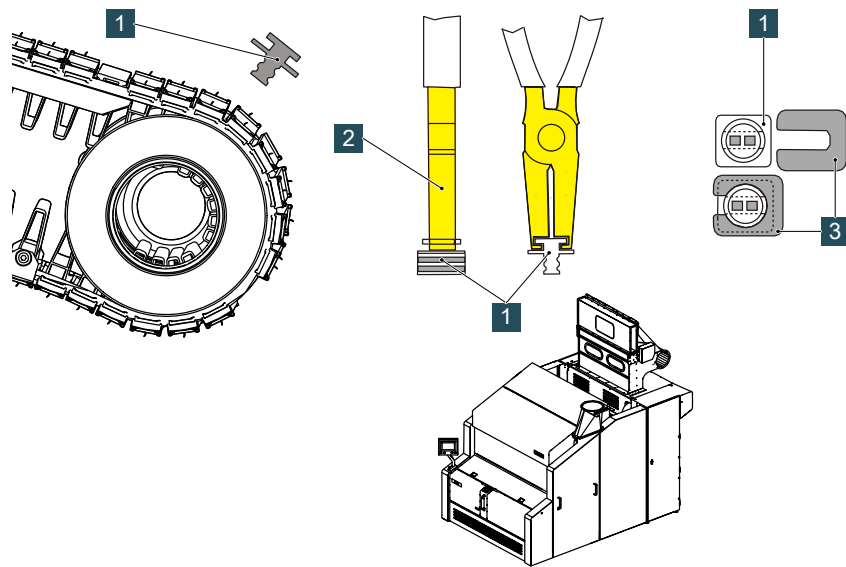
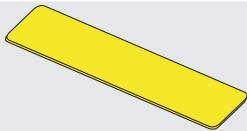


Figure 443: Removal of the retaining clips

2. Remove the retaining clip **1** with the nipper **2**.
3. For the machine which is installed the IGC-top, remove and keep the metal plate **3**

Result The retaining clips of the card flats are removed.

9.11.2.6 Removing the Card Flats

Tools	Tool	Tool Name	Function Description
		Lids	The lid is used for the card flats installation or removal

Prerequisites Make sure that the criteria are obeyed:

- ✓ The deflection pulleys are adjusted before removal of the card flats (*refer to ► 790*).



NOTICE

Collision against the crossbar!

Damage of the card flats because of the collision against the crossbar.

- DO NOT make the card flats move backward when installing or removing the card flats.



NOTICE

Incorrect tools!!

Damage to the material because of using incorrect tool

- ▶ Do NOT use screwdriver to install or remove the card flat.
- ▶ Always use hand or lid supplied by Rieter to install or remove the card flat.

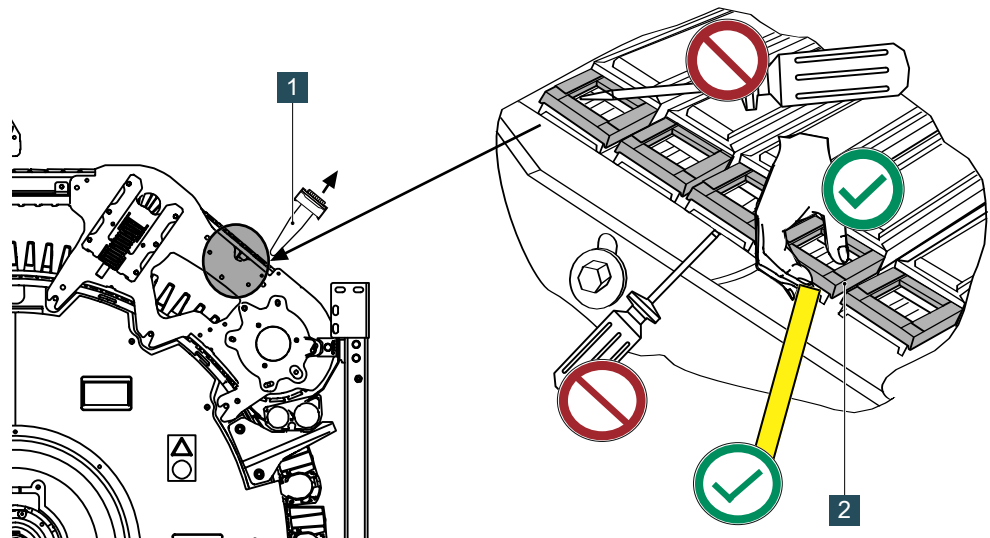


Figure 444: Removal of the flats

1. Remove the lubricating block on the 2 sides on the machine (refer to ▶ 879).
2. Remove the retaining clip (refer to ▶ 790).
3. Push the card flat **1** out of the bracket **2** with hand on 2 sides of the flat.
4. Only make the card flats move forward when removing the card flats.
5. Remove all card flats one after one.

Result The card flats are removed.

9.11.2.7 Identifying Different Types of Card Flats



NOTICE

Incorrect handling of different card flats and slide shoes

Damage of the card flat clothing

- ▶ Only use card flats of the correct type for C80.
- ▶ Do NOT mix card flats with different type.
- ▶ Replace the damaged card flats only in an approved workshop.

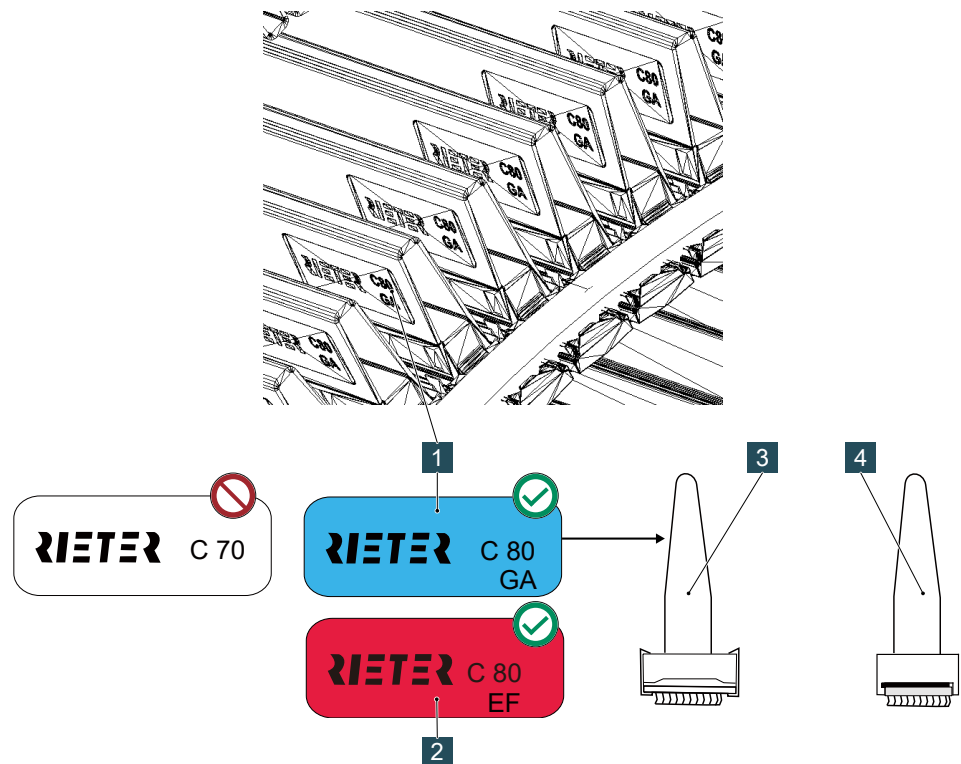


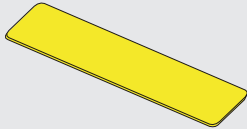
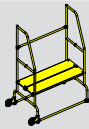
Figure 445: Types of card flat

- | | |
|---|---|
| 1 Type of card flat: general application | 2 Type of card flat: extra fine clothing |
| 3 Flat rod for clips | 4 Flat rod for EasyTop |

1. Identify the types of card flats.
2. Use the correct types of card flats **1** and **2**.

Result Different types of card flats are identified.

9.11.2.8 Installing the Card Flats

Tools	Tool	Tool Name	Function Description
		Lids	The lid is used for the card flats installation or removal
		Movable platform	--

Prerequisites Make sure that the criteria are obeyed:

- ✓ A moveable platform is to be used.
- ✓ A lid for card flat installation is to be used.

- ✓ The lubricating blocks on 2 sides are removed.



NOTICE

Incorrect tools!!

Damage to the material because of using incorrect tool

- Do NOT use screwdriver to install or remove the card flat.
- Always use hand or lid supplied by Rieter to install or remove the card flat.



NOTICE

Collision against the crossbar!

Damage of the card flats because of the collision against the crossbar.

- DO NOT make the card flats move backward when installing or removing the card flats.

1. Set the machine in test mode.
2. Always install the card flat in the area **5** or area **7**.

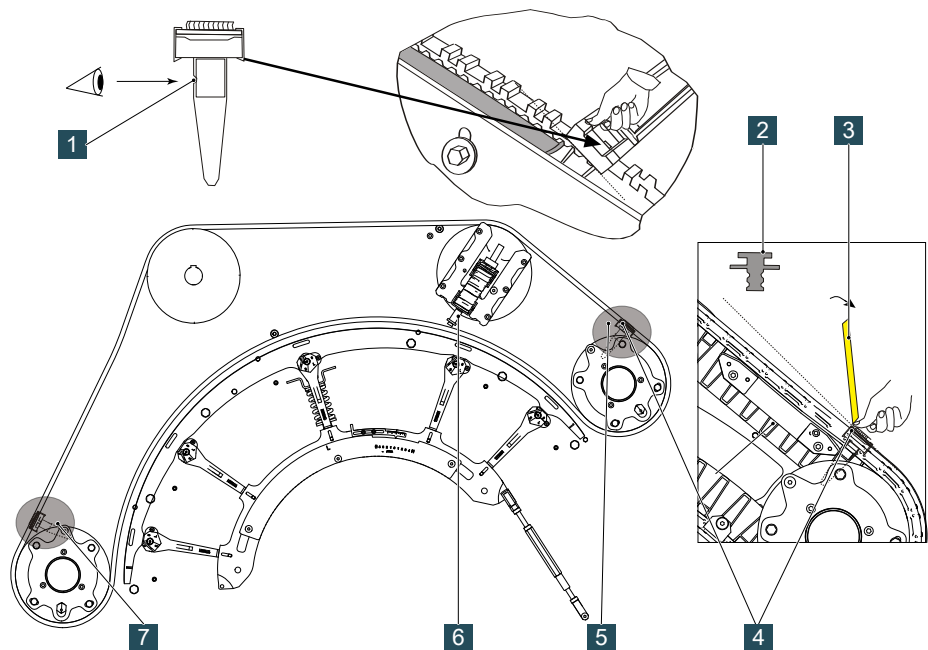


Figure 446: Installation of the flats

3. If install the card flats in the area **5**, make sure that the lubricating brackets are removed.
4. If install the card flats in the area **7**, make sure that the lubricating brackets and the crossbar at the rear side are removed.
5. Make sure that the mark **1** is same at all flats.

- ⇒ The marks **1** must be aligned in the direction of the card chute.
6. Put the card flat **4** at a small angle onto the clamp studs of the belt.
 7. Use the hand or tool **3** to push the card flat **4** into the area between the clamp studs.
 - ⇒ The card flat is installed.
 8. Install all card flats one after one.
 9. Only set the card flats move forward during the installation.
 10. Examine the label on the right side of each card flat to make sure that the card flats type is correct.

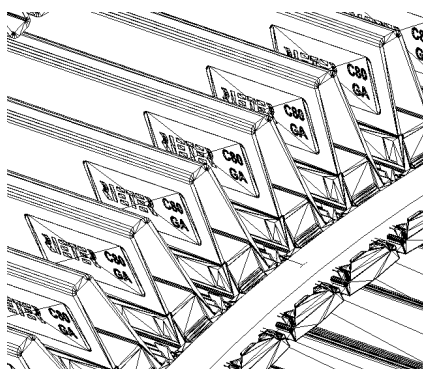


Figure 447: Label of the card flats

Installing the Last Card Flat

1. Put the tool **6** in right position refer to the figure that follows.

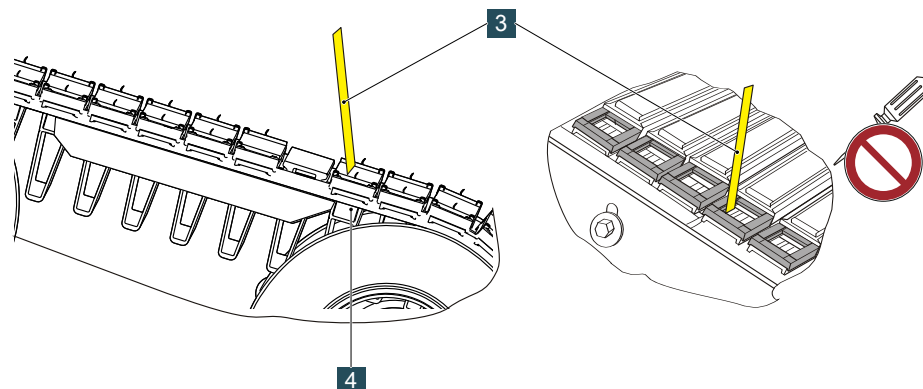


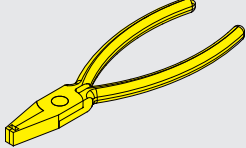
Figure 448: Installation of the last card flat

2. Push the clamp studs with the tool **3** to let the card flat **4** go into area.
⇒ The last card flat is installed.
3. Install the retaining clips **2** of the card flats correctly (refer to ► 796).
4. Adjust the deflection pulley of the card flats (refer to ► 336).
5. Adjust the tension of card flats belts if necessary (refer to ► 859).

Result All card flats are installed

9.11.2.9 Installing the Retaining Clips of the Card Flats

Tools

Tool	Tool Name	Function Description
	Nipper	The nipper is used to remove the retaining clips from a flat rod.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The card flats are installed.
- ✓ A nipper is to be used.
- ✓ The lubrication blocks are removed.

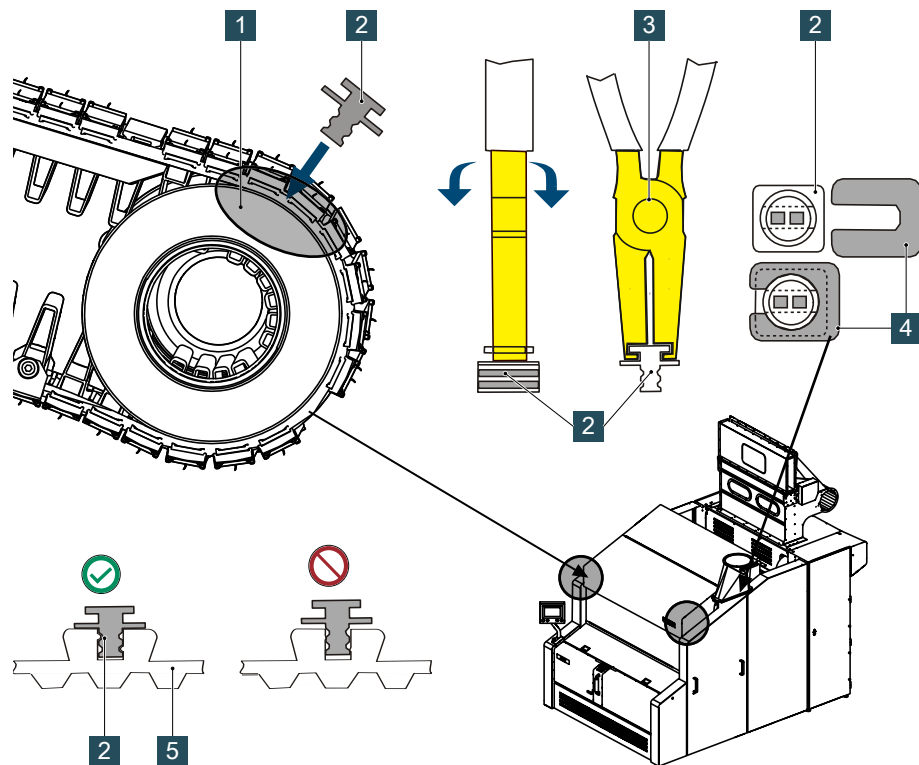


Figure 449: Retaining clips of the card flats

1. Always install the retaining clips **2** into the drive belt of the card flats in area **1**.
2. Use a gripper **3** to attach the retaining clip **2**.
3. Push the retaining clips **2** into the drive belt **5** of the card flats until it is flush.

4. At the right side of the machine, make sure that the metal plate **4** is attached on the retaining clip **2** for a machine with IGS-Top.
5. Install the lubrication blocks on 2 sides of the machine.

Result The retaining clips of the card flats are installed.

9.11.3 IGS-classic

This chapter contains the information about the maintenance work on the IGS-classic.

9.11.3.1 Replacing the Electric Magnet

The fastening screws **2** are different lengths. To make sure that the internally of the electric magnet **1** is not damaged, the screws **2** must not through more than 4 mm into its housing. Therefore, the screws must not be replaced.

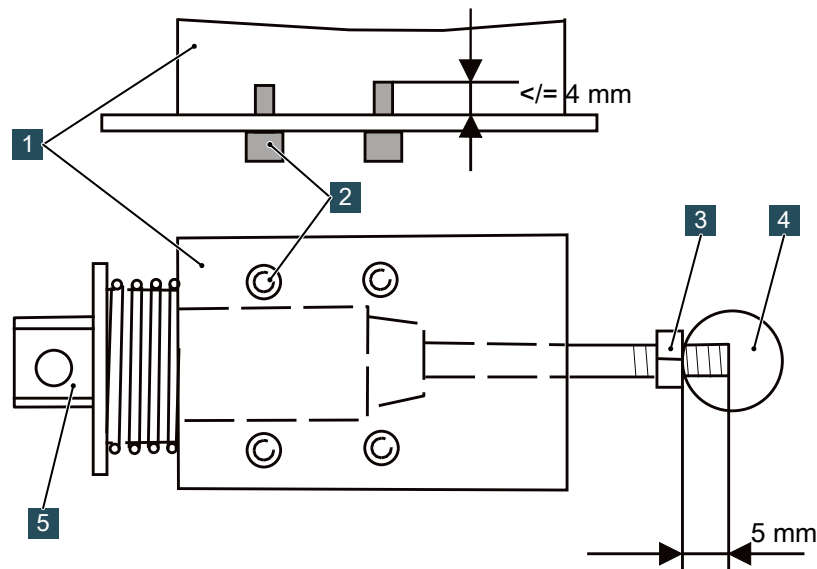


Figure 450: Electric magnet

Removing the Electric Magnet

1. Loosen the screw **3**.
 2. Remove the piston rod **5** from the shaft **4**.
 3. Loosen the screws **2**.
 4. Remove the electric magnet **1**.
- ⇒ The electric magnet is removed.

Installing the Electric Magnet

1. Set the nut **3**.
2. Attach the nut **3** with adhesive.

3. Install the electric magnet **1**.
4. Put the piston rod **5** into the shaft **4**.
5. Tighten the screws **2**.

⇒ The electric magnet is installed.

Result The electric magnet is replaced.

9.11.3.2 Replacing the Grinding Device

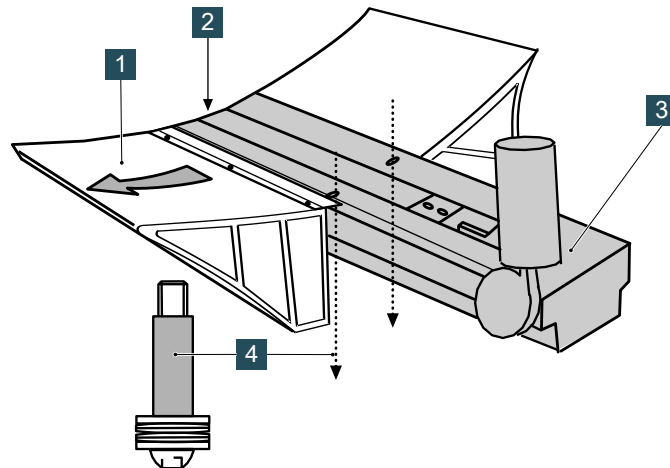


Figure 451: Grinding device

Prerequisites Make sure that the criteria are obeyed:

- ✓ 2 personnel are necessary for removal and installation of the grinding device.



NOTICE

Incorrect installation of the grinding stone

Clothing damage

- Install the grinding stone at the correct position.



NOTICE

Falling of the grinding device!

Damage to the grinding device

- 2 persons are necessary for removal and installation of the grinding device.

Removing the Grinding Device

1. Close the compressed-air supply for the card.
2. Loosen the pneumatic hose **2** from the grinding device **3**.
3. Disconnect the electric plug connector.

4. Mark the position of the tongue **1**.
5. Move the tongue **1** from the doffer.
6. Remove the tongue **1**, if necessary.
7. Make sure that the 2 personnel hold the grinding device each side.
8. Remove the 4 screws **4**.
9. Lower the grinding device **3**.
10. Remove the grinding device **3** out to the right side.
⇒ The grinding device is removed.

Installing the Grinding Device

1. Make sure that the drive is at the right side of the machine.
2. Put the grinding device **3** below the machine.
3. Lift the 2 sides of the machine at the same time
4. Tighten the screws **4**.
5. Make sure that do not pinch the seal on the casing plate when installing.
6. Attach again the compressed-air hose **2** to the grinder **3**.
7. Connect the electric plug connector.
8. Install the tongue **1** in the initial position.
9. Open the compressed-air supply at pressure 6 bar.
10. Make sure that the grinding device must be tested after each installation.
⇒ The grinding device is installed.

Result The grinding device is replaced.

9.11.3.3 Examining the Grinding Stone



CAUTION

Moving parts!

Hands injury because of the moving belt and grinding stone

- ▶ Make sure that the belt and the grinding stone are at a standstill when the safety cover is removed.
- ▶ Do NOT touch the moving parts.

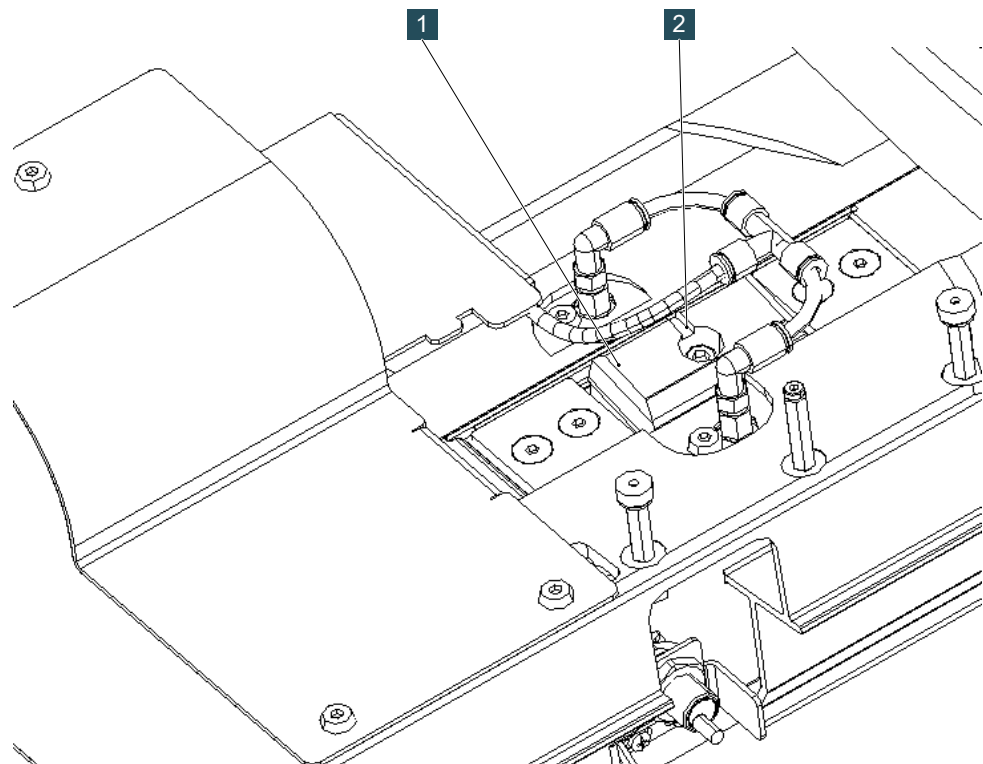


Figure 452: Grinding stone of the IGS-classic

1. **CAUTION! Moving parts! Hands injury because of the moving belt and grinding stone.** Remove the safety cover of the IGS-classic.
2. Examine the grinding stone **1** carefully.
3. If the groove **2** is worn, then replace the grinding stone **1**. See *Replacing the Grinding Stone* ▶ 801
4. If the groove **2** is not worn, then continue to use the grinding stone **1**.
⇒ The white grinding stone is examined.

Confirming to Continue the Grinding Operation

1. Select the data screen 4.1.3.3 **Maintenance clothings IGS**.
2. Enter the condition as **Stone OK** in **Inspecti.of grindstone**.
⇒ 80 grinding cycles are added to the grinding budget.
3. If the fault message 7108 **IGS-cl. max. grinding cycles reached** shows on the data screen.
⇒ No more grinding cycles are added and the grinding stone is to be replaced.
4. Select the data screen 2.3.1.3 **Settings IGS**.
5. Enter the status as **Contin. grinding** in **End of service life**.

⇒ The grinding continues until 2 times the cycles of the initial value but not more than maximum of 400 cycles.

Result The grinding stone is examined.

9.11.3.4 Replacing the Grinding Stone

The grinding stone has to be replaced after each replacement of the cylinder clothing.

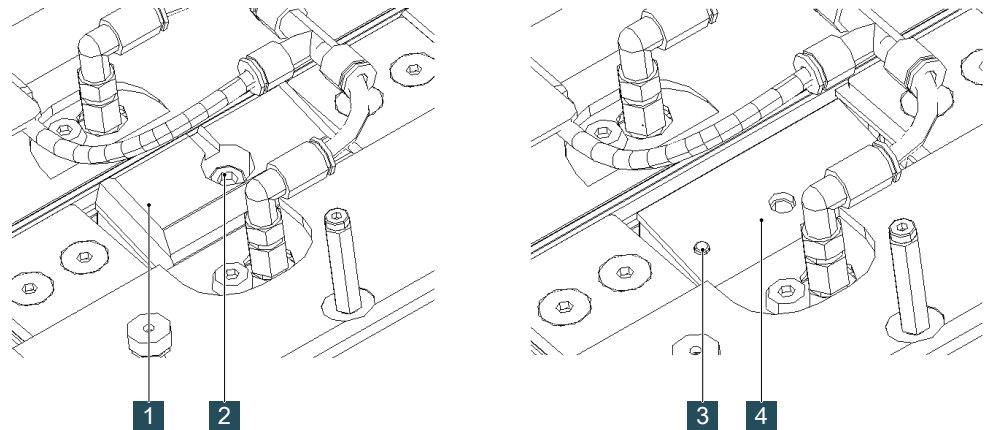


Figure 453: Grinding stone of IGS classic



CAUTION

Moving parts!

Hands injury because of the moving belt and grinding stone

- ▶ Make sure that the belt and the grinding stone are at a standstill when the safety cover is removed.
- ▶ Do NOT touch the moving parts.



NOTICE

Twisting the grinding stone

Damage of the spring plate

- ▶ Hold the grinding stone tightly when replace the grinding stone.

Removing the Grinding Stone

1. **CAUTION! Hands injury because of the moving belt and grinding stone.**
Remove the safety cover of the IGS-classic device.
2. Hold the grinding stone **1** tightly.
3. Loosen the screw **2**.
⇒ The grinding stone is removed.

Installing the Grinding Stone

1. At the left side of the machine, put the grinding stone **1**.
2. Make sure that the bevel of the grinding stone is aligned oppsite of the running direction of the cylinder.
 - ⇒ The Rieter logo of the grinding stone is aligned in direction of the sliver coiler device.
3. Make sure that the grinding stone is positioned with the holes in the carrier plate and the positioning pin **3** in the spring plate **4**.
4. Hold the grinding stone **2** tightly so that it does not twist when tightened.
5. Tighten the screw **1** fully.
6. Select the data screen 4.1.3.3.
7. Select the condition in the field **Inspecti.of grindstone** as **Stone replaced**.
 - ⇒ The grinding stone is installed.

Result The grinding stone is replaced.

9.11.3.5 Replacing the Guide Carriage

This section contains the information about how to replace the guide carriage.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The grinding stone is on the right side of the machine.
- ✓ The grinding device is to be connected to the compressed air at the position where the guide carriage becomes removed.
- ✓ The compressed-air pressure is less than 6 bar.

Removing the Guide Carriage

1. Loosen the screws **6**.

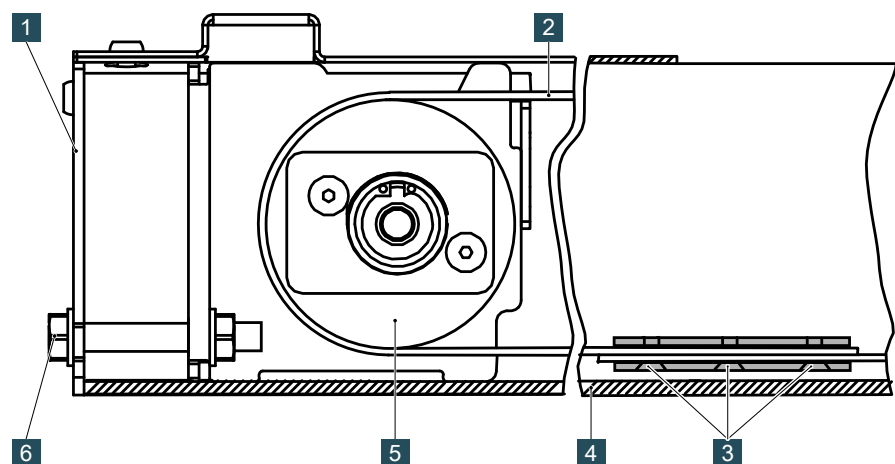


Figure 454: Deflection unit

- ⇒ The tension is released from the flat belt **2**.

2. Remove the cover **4** below the carrier.
3. Hold the deflection unit **5**.
4. Remove the screws **3**.
5. Remove the cover plate **1**.
6. Pull the deflection unit **5** out of the carrier.
⇒ The deflection unit **5** is removed.
7. Remove the clamping plates **7** from the guide carriage **11**.

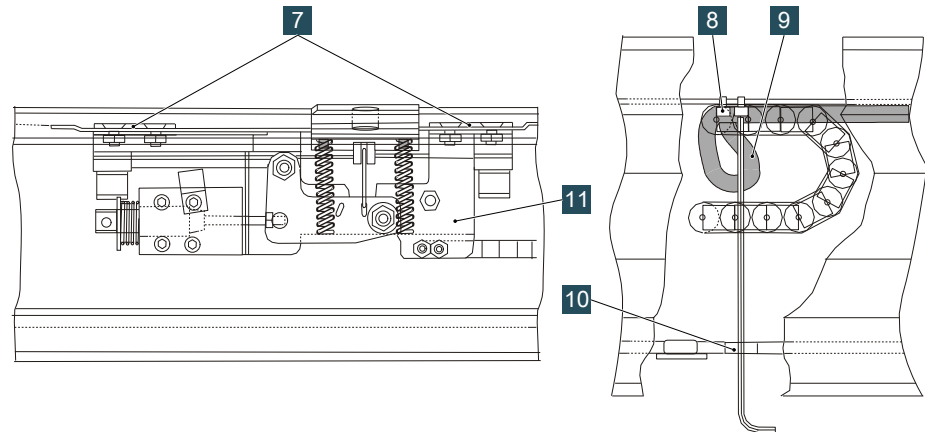


Figure 455: Guide carriage

8. Remove the sealing plug **10** in the middle of the carriage.
9. Move up the cable loop **9** on the opposite side as far as possible.
⇒ The access to the screws **8** is open.
10. Remove the screws **8** of the beginning of the chain with a long, 2.5 mm long hexagonal key.
11. Move out the guide carriage **11** carefully to the backside.
⇒ The guide carriage is removed.

Installing the Guide Carriage

1. Put the guide carriage **11** into the profile.

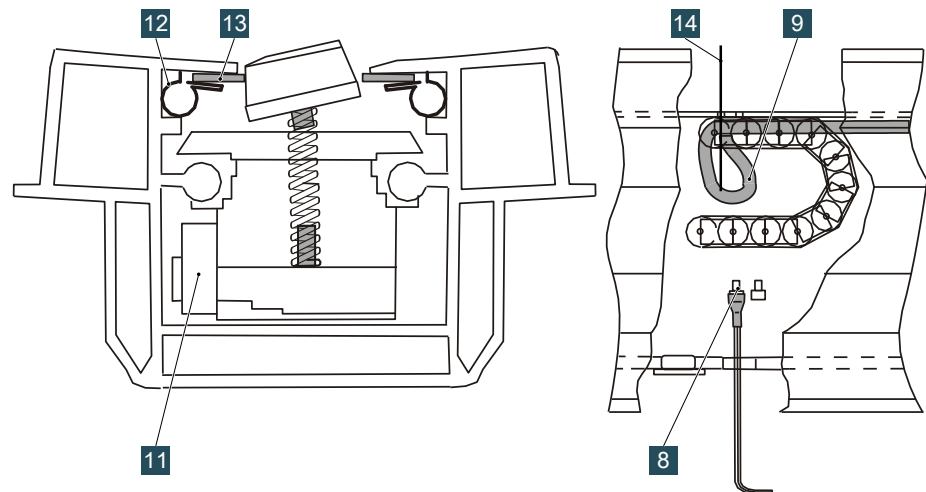


Figure 456: Installation of the guide carriage

2. Put the piece of wire **14** or equivalent material into the tapped bore.
⇒ The piece of wire **14** is easily access in to the screw holes for that recommended above procedure.
3. Attach the screw **8** to the hexagonal key with the adhesive tape.
4. Bend the cable loop **9** upward.
5. Install the screw **8**.
⇒ The wire **14** shows the position of the tapped bore.
6. Install the deflection unit **5**.
7. Put the flat belt **13** into the deflection unit **5** at the same time monitor a tab of the flat belt **13**.
8. Start the compressed-air supply.
9. Make sure that the pressure of the compressed-air supply is less than 6 bar.
⇒ The clamp contours **12** become wide.
10. Move the flat belt **13** carefully between the clamping contours **12** and the profile.
⇒ The pressure hoses installed in the clamp contour **12** are sensitive.
11. Install the remaining parts.
⇒ The guide carriage is installed.

Result The guide carriage is replaced.

9.11.3.6 Removing the Clamp contour of the Flat Belt

Prerequisites Make sure that the criteria are obeyed:

- ✓ The grinding device is removed. See Replacing the Grinding Device

1. Remove the screws **7**.

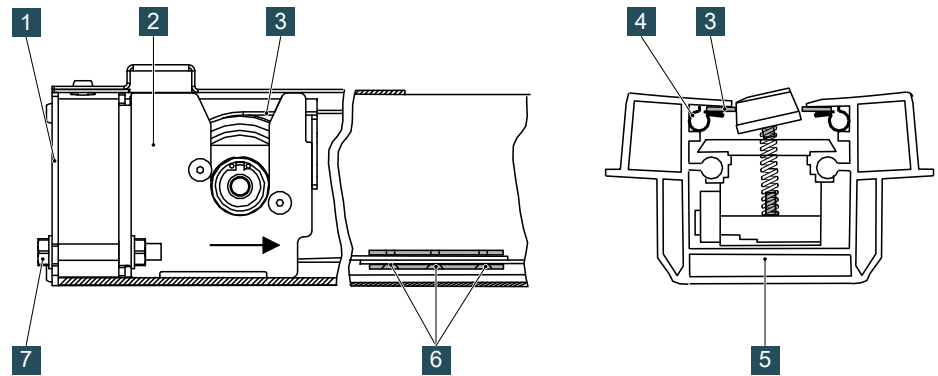


Figure 457: Removal of the clamp contours (flat belt)

2. Put the grinding device on the left side of the machine on the ground, and reconnect the compressed air.
3. Remove the rear operating unit **1**.
4. Remove the clamping plates **6**.
5. Disconnect the connection of the flat belt **3** in the area of the guide carriage **5**.
6. Remove the flat belt **3**.
7. Make sure that the clamp contours **4** are widened through the pressure hoses.
8. Remove the compressed-air connection.
9. Pull the deflector **2** out of the clamp contours **4**.
10. Remove the compressed-air fittings from the pressure hoses.
11. Pull the clamp contours **4** with the pressure hoses out of the contours.

Result The clamping profiles of the flat belt are removed.

9.11.3.7 Removing the Clamp contour of the Flat Belt

Prerequisites Make sure that the criteria are obeyed:

- ✓ The grinding device is removed. See Replacing the Grinding Device
1. Remove the screws **7**.

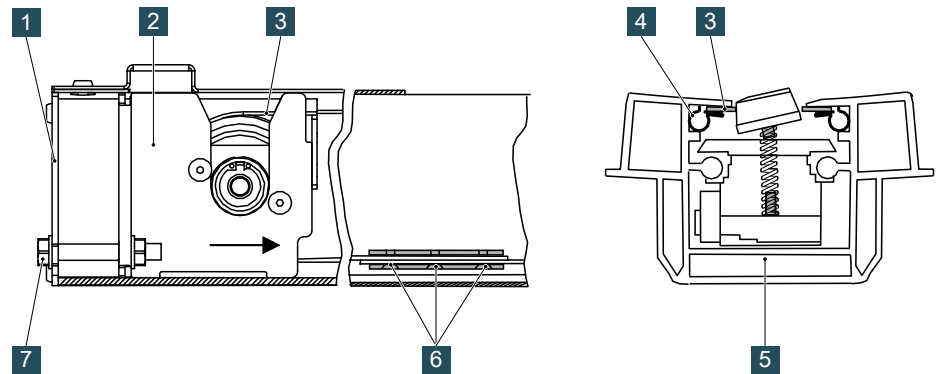


Figure 458: Removal of the clamp contours (flat belt)

2. Put the grinding device on the left side of the machine on the ground, and reconnect the compressed air.
3. Remove the rear operating unit **1**.
4. Remove the clamping plates **6**.
5. Disconnect the connection of the flat belt **3** in the area of the guide carriage **5**.
6. Remove the flat belt **3**.
7. Make sure that the clamp contours **4** are widened through the pressure hoses.
8. Remove the compressed-air connection.
9. Pull the deflector **2** out of the clamp contours **4**.
10. Remove the compressed-air fittings from the pressure hoses.
11. Pull the clamp contours **4** with the pressure hoses out of the contours.

Result The clamping profiles of the flat belt are removed.

9.11.3.8 Replacing the Clamping Profiles of the Flat Belt

This section contains the information about how to replace the clamp contour of the flat belt.

Removing the Clamp Contour of the Flat Belt

Prerequisites Make sure that the criteria are obeyed:

✓ The grinding device is removed. See Replacing the Grinding Device

1. Remove the screws **7**.

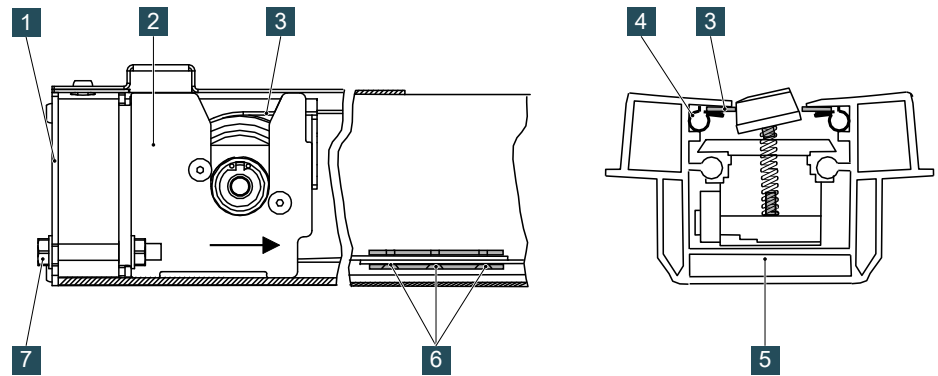


Figure 459: Removal of the clamp contours (flat belt)

2. Put the grinding device on the left side of the machine on the ground, and reconnect the compressed air.
3. Remove the rear operating unit **1**.
4. Remove the clamping plates **6**.
5. Disconnect the connection of the flat belt **3** in the area of the guide carriage **5**.
6. Remove the flat belt **3**.
7. Make sure that the clamp contours **4** are widened through the pressure hoses **8**.
8. Remove the compressed-air connection.
9. Pull the deflector **2** out of the clamp contours **4**.
10. Remove the compressed-air fittings from the pressure hoses **8**.
11. Pull the clamp contours **4** with the pressure hoses **8** out of the contours **4**.
⇒ The clamp contour of the flat belt is removed.

Installing the Clamp Contour of the Flat Belt

Prerequisites Make sure that the criteria are obeyed:

- ✓ M4 cylinder screw is to be used.

1. Make sure that the pressure hose **8** supplies with a sliding covering and must not be lubricated.

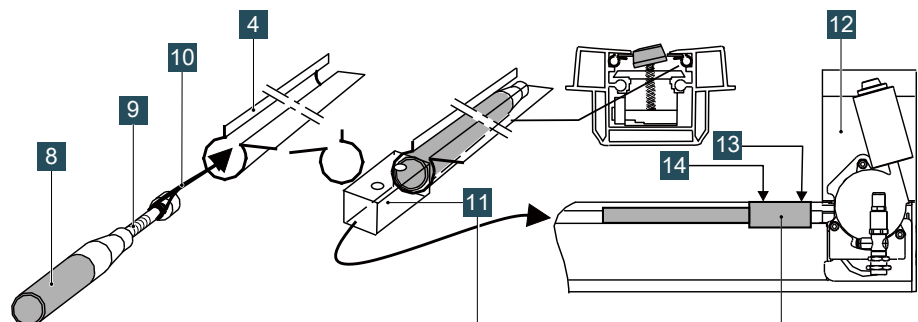


Figure 460: Clamp contours of the flat belt

2. Attach a screw **9** in the pressure hose **8** screw **9**.
 3. Attach a cord **10** onto the head of the screw **9**.
 4. Pull the cord into the clamp contour **4**.
 5. Make sure that the pressure hose **8** must be distributed in the clamp contour **4** equally.
 6. Carefully pull the pressure hose **8** into the clamp contour **4** with a cord **10**.
 7. Remove the screw **9**.
 8. Move the clamp contour **4** into the carrier contour.
 9. Attach the connection piece **11** points toward the drive **12**.
 10. Attach the connection piece **11** with the screw **13** (M5 × 8 mm and washer.)
 11. Connect the compressed air on the connection **14**.
- ⇒ Clamp contour of the flat belt is installed.

Result The clamp contour is replaced.

9.11.3.9 Applying Tension to the Flat Belt

This section contains the information about how to apply the applying tension and releasing tension from the flat belt.

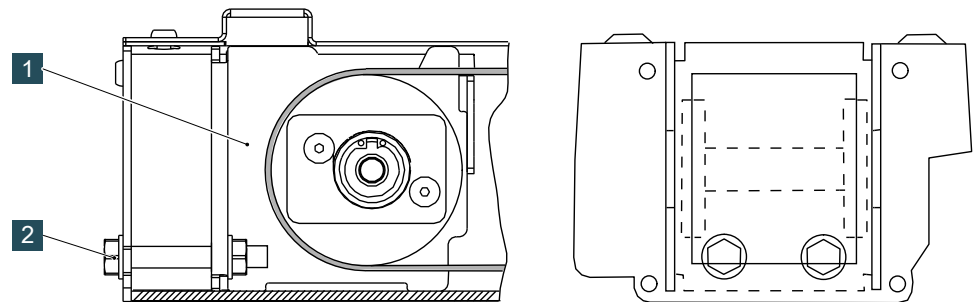


Figure 461: Flat belt

Belt Tension and Marks

Belt tension	0.8 – 1.0 %
Distance between marks	1 008.0 mm – 1 010.0 mm

1. Remove the screws **1**.
- ⇒ The flat belt is loose.
2. Make 2 lines on the flat belt at a distance of 1 000 mm.
3. Pull the deflector unit to the rear with the screws **1**.
- ⇒ The flat belt is tightened.

Result The flat belt tension is applied.

9.11.3.10 Doing a Check of the Electric Magnet

In test operation, determine whether the whetstone can be moved up and down. If this is not the case then various faults can be the cause.

The diode is designated in the electric circuit diagram.

Investigate the possible cause of the fault before electromagnet is replaced.

1. Select data screen 85.1.
2. Examine the diode in the socket outlet for connection of the cylinder grinding device.
3. A mechanical cause in the guide carriage prevents movement.
4. The electromagnet is defective.
5. Make sure that the guide carriage is not in park position on the right side of the machine.

Result The electromagnet is examined.

9.11.3.11 Adjusting the Grinding Stone Position

The height of the grinding stone is to be adjusted, only when the electric magnet is replaced.



Prerequisites Make sure that the criteria are obeyed:

- ✓ The electric magnet is replaced.
- ✓ The adjustment gauges are to be used.

Examining the Height of the Grinding Stone with the Adjustment Gauge (+)

1. Push the piston rod **6**.

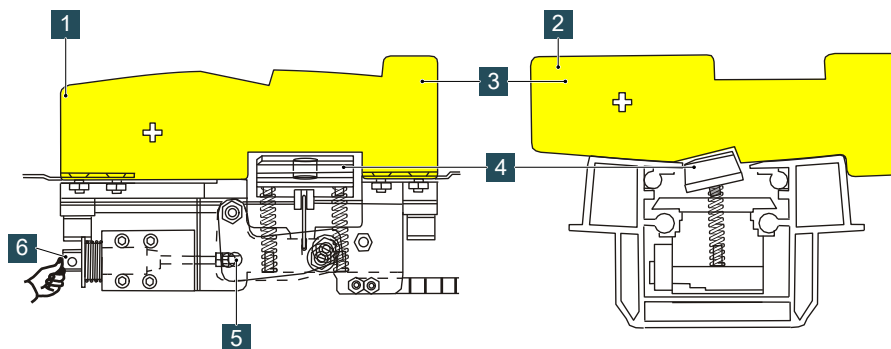


Figure 462: Examination the height of the grinding stone with the adjustment gauge (+)

2. Hold the adjustment gauge **3** on the guide block in the longitudinal direction at the position **1** as shown in the figure.
3. Hold the adjustment gauge **3** on the guide block in the transverse direction at the position **2** as shown in the figure.
4. Examine the end position of the grinding stone **4**.
5. Make sure that the air gap can be seen between the adjustment gauge **3** and the grinding stone **4**.

Examining the Height of the Grinding Stone with the Adjustment Gauge (-)

1. Push the piston rod **6** forward.

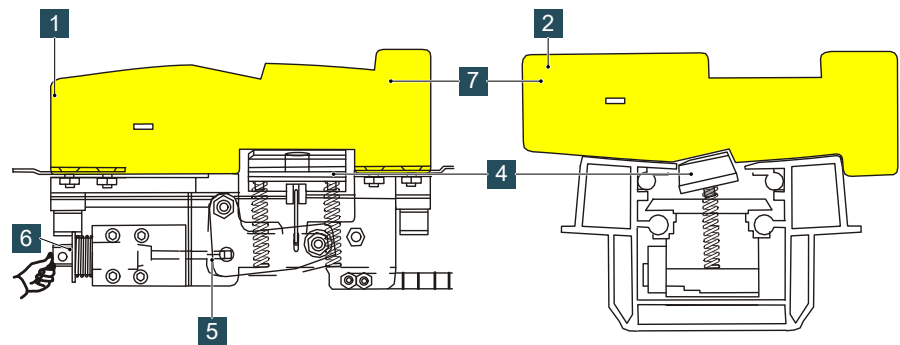


Figure 463: Examination of the height of the grinding stone with the adjustment gauge (-)

2. Hold the adjustment gauge **7** on the guide block in the longitudinal direction at the position **1** as shown in the figure.
3. Hold the adjustment gauge **7** on the guide block in the transverse direction at the position **2** as shown in the figure.
4. Make sure that no air gap can be seen between the adjustment gauge **7** and the grinding stone **4**.

Correcting the Height of the Grinding Stone

1. If the position of the grinding stone **4** is high, turn the piston rod **6** clockwise with a mandrel that is put in the opening.
2. If the position of the grinding stone **4** is low, turn the piston rod **6** counterclockwise with a mandrel that is put in the opening.
3. Hold the nut **5** with pointed pliers and tighten the nut with the screwdriver.

Result The grinding stone position is adjusted.

9.11.3.12 Pressure-Reducing Valve

The pressure reducing valve **1** is factory set to 4 bar and must not be adjusted.

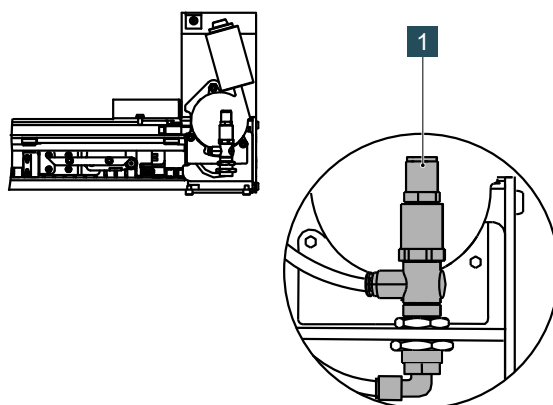


Figure 464: Pressure reducing valve

9.11.3.13 Doing a Function Test of the IGS-classic

The electromagnet is not activated during the function test. Consequently the grinding stone is not located in the grinding position.

If the guide carriage is not in its parking position on the right side of the machine after a test has been completed, an alarm will show. The user can use the function of **Move to right position** to guide carriage into its parking position.

Reaction	
Function : Move to right position	The guide carriage is moved out of the parking position on the left side of the machine.
Function : Move to left position	The guide carriage is moved from the right side of the machine into its parking position on the left side of the machine.
Function : Raise stone	The grinding stone is raised and lowers itself again after 22 seconds. The electromagnet must first cool down before a renewed test can be carried out. The test can only be carried out with the grindstone in its parking position (on the left side of the machine). The position of the grindstone is monitored by a micro switch.
Function : Sealing lips	The sealing lips are put under pressure.

Reaction**Function : Cycles**

As the grinding stone is lowered, the guide carriage goes from the parking position to the right and then back to the left side of the machine.

1. Enter the password level 3.
2. Select the **Test mode** in data screen 4.1.5.

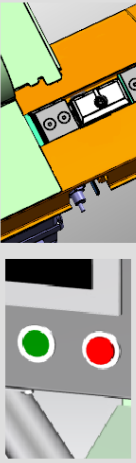
4.2.7.3 Test of IGS-classic		14:16:25
8106 Machine not ready		
	Execute test	Yes
	Function	Raise stone
	Service cover closed S54	1
	IGS-classic cyl. right B51	0
	IGS-classic cylinder left B52	1
	Stone in grinding position S53	0
	Time until grinding position reached	0.3 S

Figure 465: Data screen 4.2.7.3 Test IGS classic

3. Select data screen 4.2.7.3.
4. Select **Yes** in the field of **Execute test**.
5. In the line **Function** select the function: **Move to left position** or **Move to right position** or **Raise stone** or **Sealing lips** or **Cycles**
6. Push the start button.
 - ⇒ The function will be activated.
 - ⇒ The data screen also shows the states of the corresponding sensors and possibly whether the function has started (=1) or stopped (=0).
7. Test the functions and refer to the table above.
8. In the line **Time until grinding position reached** pay attention to the time.
 - ⇒ The range of the time is 0.1 – 0.3 s.

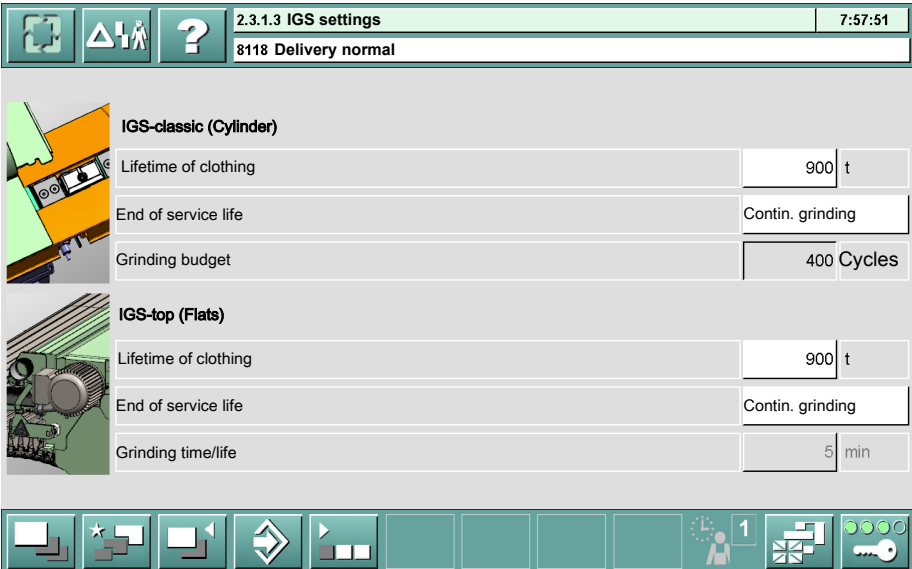
9. If the time is more than 0.3 s, examine the grinding stone movement mechanism.

Result The function test of IGS-Classic is executed.

9.11.4 IGS-top

This chapter contains the information about the maintenance work on the IGS-top.

9.11.4.1 Changing the Service Life of the Card Flat Clothing



The screenshot shows a software interface for '2.3.1.3 IGS settings' with a timer at 7:57:51. It contains two sections: 'IGS-classic (Cylinder)' and 'IGS-top (Flats)'. Each section has a table of settings.

IGS-classic (Cylinder)	
Lifetime of clothing	900 t
End of service life	Contin. grinding
Grinding budget	400 Cycles

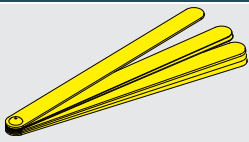
IGS-top (Flats)	
Lifetime of clothing	900 t
End of service life	Contin. grinding
Grinding time/life	5 min

Figure 466: Data screen 2.3.1.3

1. Select the data screen 2.3.1.3.
2. Enter the value between 100 and 4 000 t in the field **IGS-top (Flats) in Lifetime of clothing**.
3. Enter the status in the field **End of service life** as **Stop grinding**.
4. Enter the value in the field **Grinding time/life** as 5 min.

Result The service life of the card flat clothing is changed.

9.11.4.2 Setting the Grinding Brush Parallel to the Card Flats

Tool	Tool Name	Function Description
	Card gauge	The card gauge is used to measure the distance between the machine parts.

Prerequisites Make sure that the criteria are obeyed:

- ✓ A card gauge is to be used.

1. Make sure that correct tension is applied to the belt of the card flats **10** before the adjustment in the alignment. See Applying Tension to the Card Flat Belt

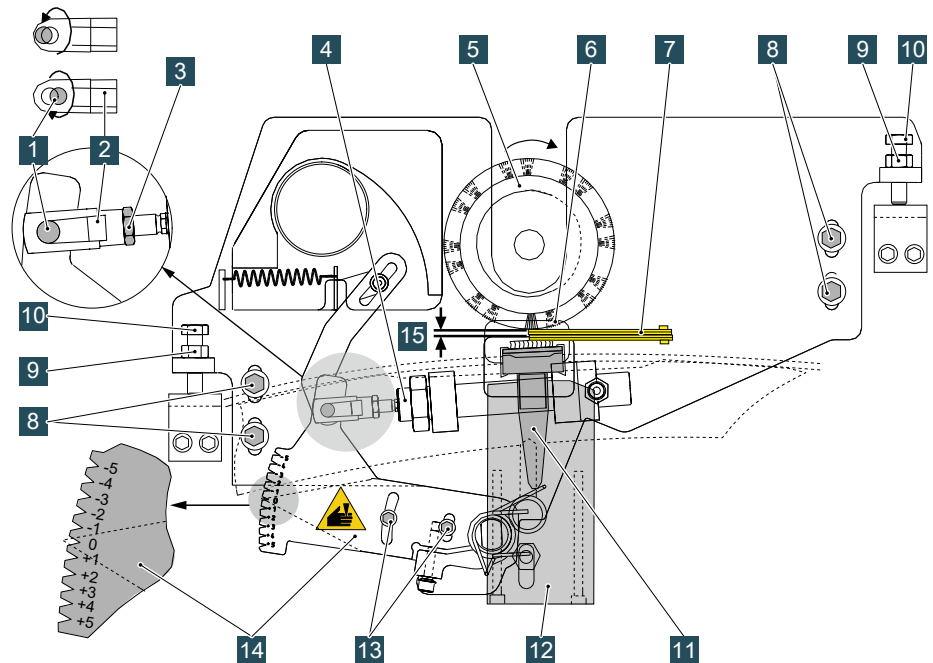


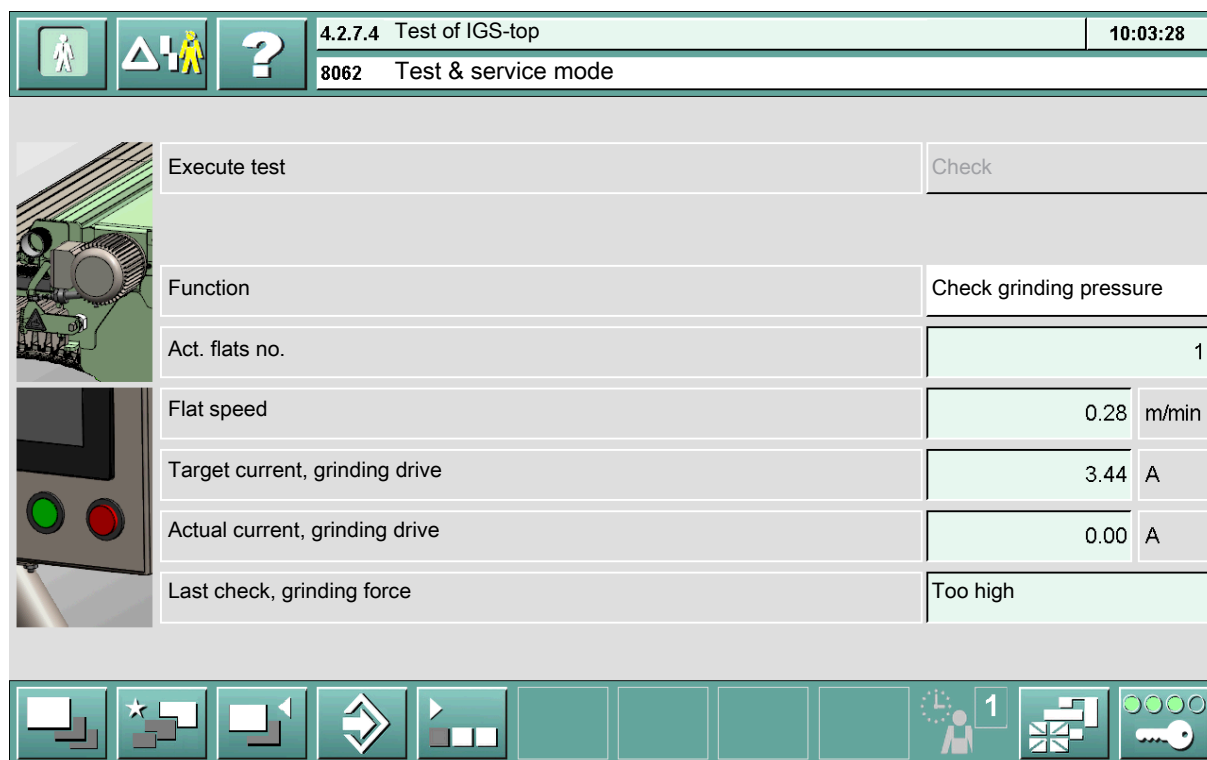
Figure 467: Grinding brush and the card flats

2. Align a card flat **10** with a line of bristles **12** of grinding brush **7** accurately.
3. Disconnect the connection of the bores **1** to the pneumatic cylinder **6**.
4. Loosen all the screws **14**.
5. Adjust the actuator system lever **16** related to the lever **15** until the point of the lever **15** is at the position 0.
6. Tighten all the screws **14**.
7. Make sure that the slides shoes **11** do not touch the card flats **10**.
8. Make sure that card flats **10** rest on the return rail.
9. Loosen the screws **9** slightly.
10. Loosen the nut **5**.
11. Engage the card gauge **8** from the direction of the material feed.
12. To adjust the distance **13** between the grinding brush bristles **12** and the grinding brush **7** by 4.0 mm, use the screws **4**.
13. Tighten again the screws **9** and the nut **5** fully.
14. Adjust the distance **13** on the 2 sides.
15. Put the piston rod into the pneumatic cylinder **6**.
16. Tighten the fork head **2** in or out to align the bores **1**.

17. Tighten the nut **3** after the connection.

Result The grinding brush is made parallel to the card flats.

9.11.4.3 Examining the Grinding Pressure



4.2.7.4 Test of IGS-top		10:03:28
8062 Test & service mode		
Execute test	Check	
Function	Check grinding pressure	
Act. flats no.	1	
Flat speed	0.28	m/min
Target current, grinding drive	3.44	A
Actual current, grinding drive	0.00	A
Last check, grinding force	Too high	

Figure 468: Data screen 4.2.7.4 Test of IGS-top

Status in the field of Last check, grinding force	Status of the signal light at the coiler	Remedy
Normal	Off	Not necessary
High or Too high	On	Reduce the grinding pressure. See <i>Adjusting the Grinding Pressure</i> ▶ 816
Low or Too low	Flash	Increase the grinding pressure. See <i>Adjusting the Grinding Pressure</i> ▶ 816

1. Start the grinding drive to grind card flats. See *Starting the Card Flats for the Grinding* ▶ 786
2. Select the data screen 4.2.7.4 **Test of IGS-top**.

3. Select the function **Check grinding pressure** in the field **Function** .
4. See the actual current in **Actual current, grinding drive** .
⇒ The actual power consumption is shown.
5. The first card flat moves into the grinding position by the pneumatic lever in 10 seconds.
6. Do the measurement of minimum 2 card flats.
7. See the status shown in the field of **Last check, grinding force:** , do the adjustment according to the table above.
8. After the adjustment of the grinding pressure, wait for minimum of 10 card flats pass the grinding position.
⇒ The result of the grinding pressure test can be saved.

Result The power consumption is examined.

9.11.4.4 Adjusting the Grinding Pressure

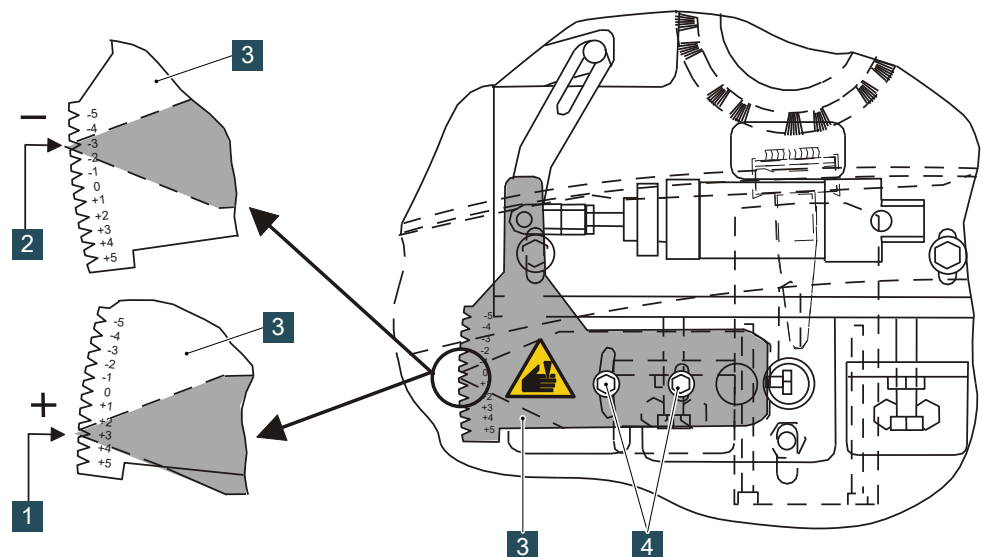


Figure 469: Adjustment of the grinding pressure

1. Make sure that the grinding brush is parallel to the card flat clothing.
2. Examine the position of the grinding brush.
3. Examine the current consumption on the card flat clothing.

Decreasing the grinding pressure

Obey the steps that follow in accordance with the status.

If the status of the **Grinding force** is **Too high** or **High**

1. Select the data screen 4.1.3.3 **Maintenance IGS clothings** .
2. Loosen the screws **3** from the 2 sides.

3. Push the actuator system levers **1** some notches on the scale **2** in the direction (-).
4. Examine the power consumption again.
5. If necessary, adjust the grinding pressure with the levers **1**.
6. Adjust the grinding brush.
 - ⇒ The grinding pressure is decreased.

Increasing the Grinding Pressure

If the status of the Grinding force is **Too low** or **Low**, obey the steps that follow:

1. Select the data screen 4.1.3.3 **Maintenance IGS clothings**.
2. Move the levers **1** by some notches on scale **4** in the direction (+).
3. Make the adjustments on the 2 sides.
4. If the grinding pressure is not sufficient, then decrease the mechanical basic adjustment to 3.0 from 3.5.
 - ⇒ The grinding pressure is increased.
5. After each change, see the status of the grinding pressure in the data screen 4.1.3.3 **Maintenance IGS clothings**.

Result The grinding pressure is adjusted.

9.11.4.5 Installing the Grinding Brush

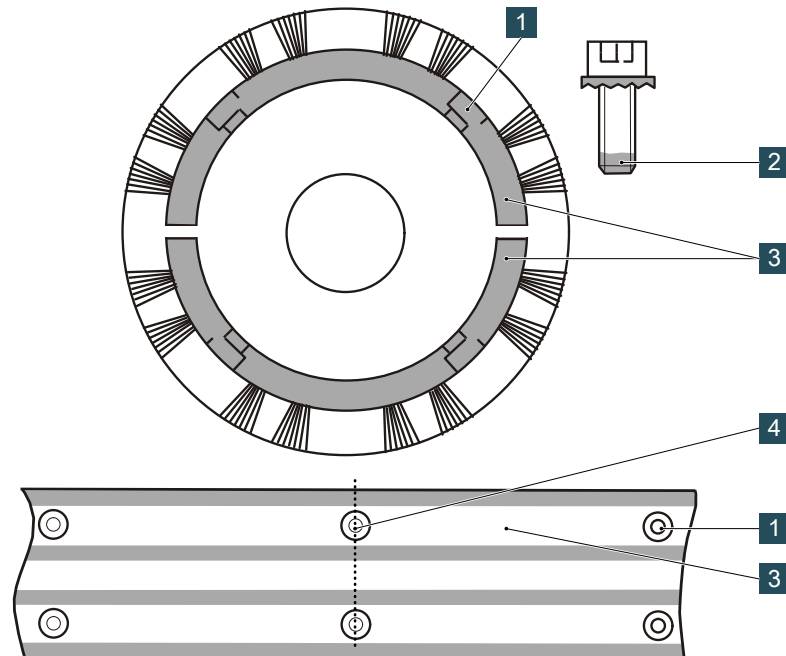


Figure 470: Grinding brush

1. Apply thread-lock on the thread **2**.

2. Tighten the screw **1** with hand.
3. Install the 2 parts of the grinding brush **3** in pairs.
4. Tighten the screws **1** through the middle point **4**, to the specified tightening torque of 10 Nm.
5. Adjust the grinding pressure after the installation of the grinding brush.

Result The grinding brush is installed.

9.11.4.6 Examining the Position of the Grinding Brush

Prerequisites Make sure that the criteria are obeyed:

- ✓ A flashlight is to be used.



WARNING

Moving machine components!

Risk of hand injury

- ▶ Do NOT touch the machine components that move.
- ▶ Before setting the main switch to position OFF, make sure that the machine is at a standstill.
- ▶ When do maintenance work and repair work, set the main switch to the position OFF and padlock the main switch.

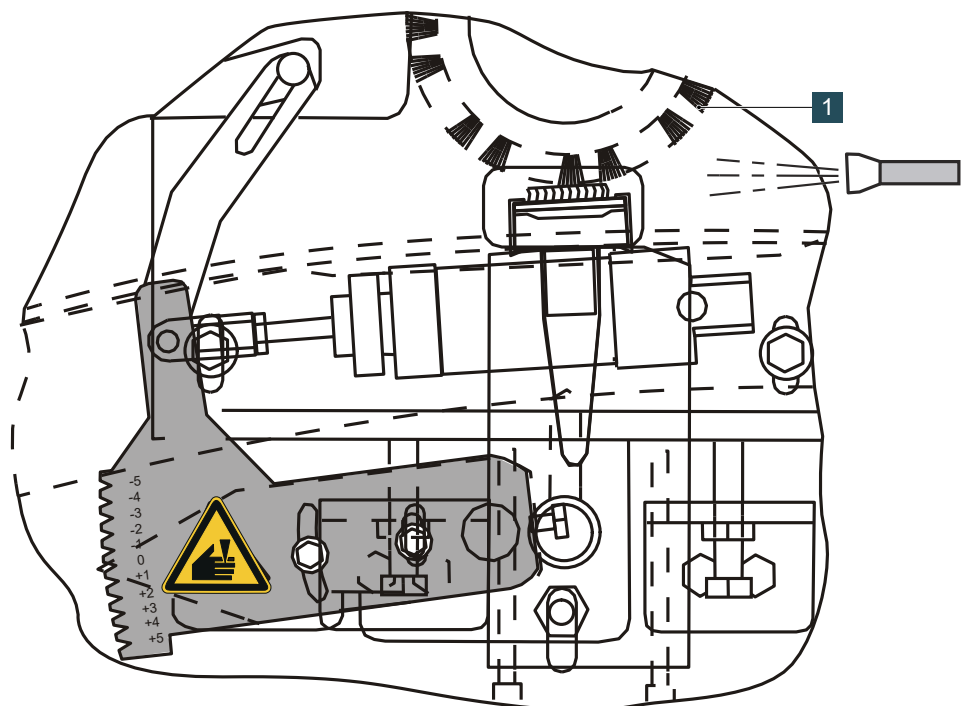


Figure 471: Grinding brush

1. Examine the grinding brush **1** from the side of the card chute with a flashlight.
2. **WARNING! Moving machine components! WARNING! Risk of hand injury because the machine components moves Do Not touch the machine when the machine is moves** Make sure that the bristles of the grinding brush **1** touch the card flat clothing.
3. Make sure that the do not penetrate the grinding brush **1**.
4. Examine the side panel opening.
5. Make sure that the grinding brush **1** bristles equally touch the right card flat and the left card flat.
⇒ The basic setting of the grinding brush **1** is correct.

Result The position of the grinding brush is examined.

9.11.5 Doffer Clothing

This chapter contains the information about the maintenance work on the doffer clothing.

To sharpen the doffer clothing, Rieter recommends the doffer grinding device 'ASG' from Graf.

9.11.5.1 Doing the Activation of the Doffer Clothing

Prerequisites Make sure that the criteria are obeyed:

- ✓ The doffer clothing is replaced.

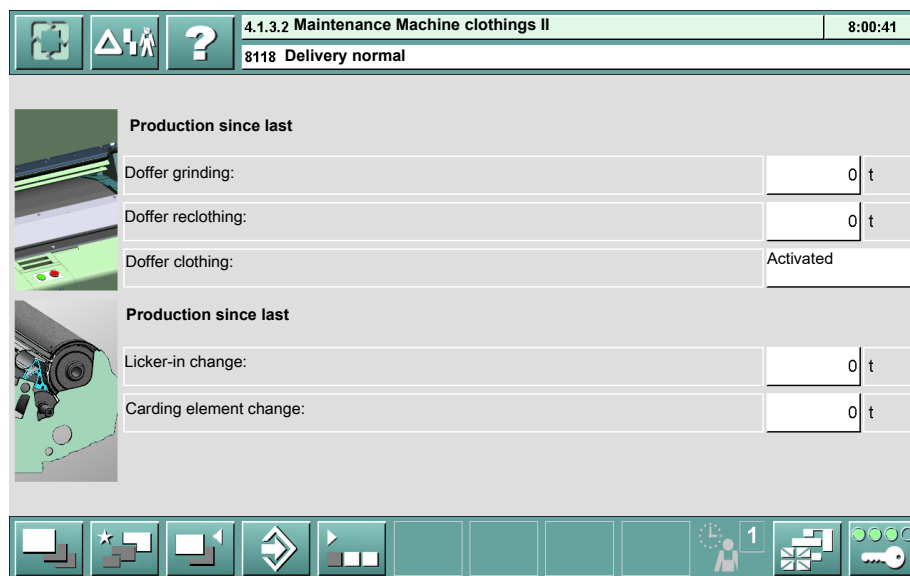


Figure 472: Data screen 4.1.3.2

1. Select the data screen 4.1.3.2.
2. Set the counter to 0 t value in field **Doffer reclothing**: is 0.

⇒ The status in the field **Doffer clothing** change to **Not activated** .

3. Set the value **Not activated** to the value **Activated** in the field **Doffer clothing** .

Result The doffer clothing is active in the data screen 4.1.3.2.

9.11.5.2 Preparing the Doffer Clothing for Sharpening

To sharpen the doffer clothing Rieter recommends the 'ASG' doffer grinding device of Graf.

Refer to the operation manual supplied by Graf to get more information.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



WARNING

Turning doffer!

Hand injuries

- ▶ Do Not go into the area of the doffer.
- ▶ Make sure that only approved personnel clean the doffer.

1. **WARNING! Turning doffer! Injury to the hands because of the turning doffer.** Remove the cover **1**.

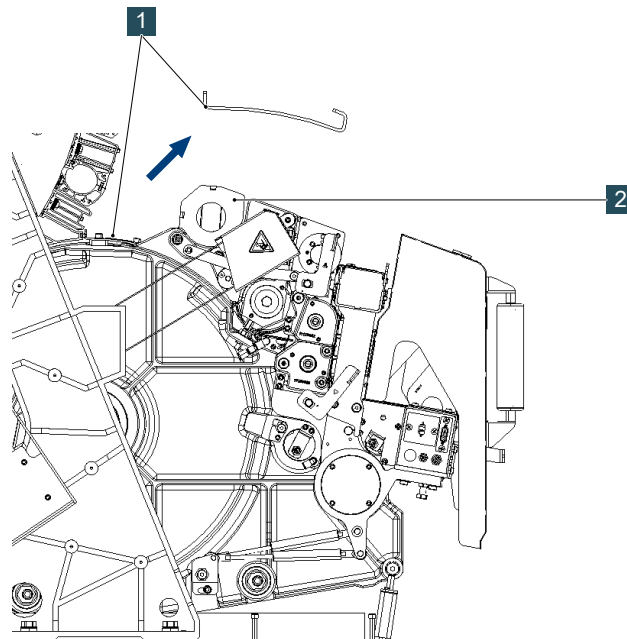


Figure 473: Preparation for sharpen the doffer

2. Remove the suction duct **2**.

3. Install the ASG device to sharpen the doffer (for detailed information refer to the manual supplied by Graf).

Result The preparation for sharpening the doffer clothing is done.

9.11.5.3 Preparing the Machine for Winding the Wire onto the Doffer

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

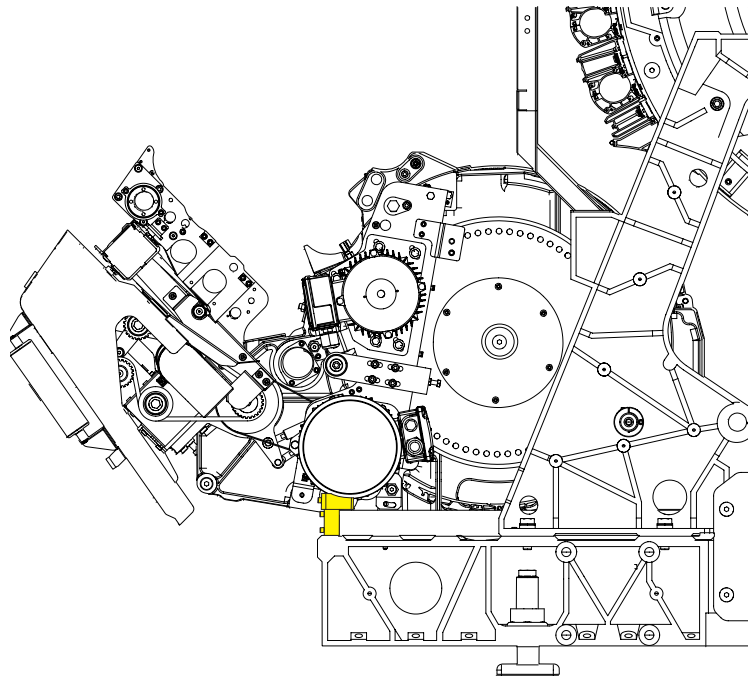


Figure 474: Prepare for doffer rewiring

1. Move the delivery unit to the rewiring position (refer to ► 880).
2. Remove the doffer cover.
3. Remove the suction duct.
4. Remove the clearer roller.
5. Remove the take-off roller unit.
6. Remove all the aluminum elements around the doffer.
7. Install the rewiring device supplied by Graf (for the detailed information refer to the operation manual supplied by Graf).

Result The doffer is prepared for rewiring.

9.11.5.4 Setting the Counter after the Doffer Clothing Grinding

1. Set the machine in test mode.

2. Select the data screen 4.1.3.2.
3. Set the counter to 0 t in the field **Doffer grinding:** .
⇒ The counter is set after the doffer clothing grinding.
4. Make sure that the status is **Activated** in the field **Doffer clothing** .

Result The counter is set after the doffer clothing grinding.

10 Repair

This chapter contains the information about the repair work of the machine.

10.1 Repair Personnel

Only Rieter approved personnel are permitted to do the repair work at the machine.

10.2 Safety Regulations

The information that follows is the safety regulations that have to be obeyed:

- The machine is at a standstill.
- The main switch is set to the position OFF and the main switch is padlocked.

Risks The risks of injury to the personnel occur during the repair work because of:

- Human error
- Not using the personal protective equipment
- Not sufficient visual contact and communication with the personnel in the danger zone
- Electrical short-circuit



DANGER

The safety devices are removed or bypassed!

Death or dangerous injuries

- Do NOT remove the installed safety devices.
- Do NOT bypass the installed safety devices.



WARNING

Turning parts!

Risk of hand injury.

- Stay away from the machine until the machine is at a standstill.

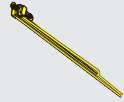
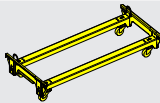
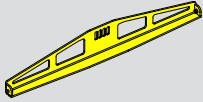
10.3 Repair Work

This chapter contains the information about how to repair the defective machine parts.

10.4 Card Chute

This chapter contains the information about how to repair the card chute.

10.4.1 Removing the Opening Unit from the Card Chute

Tools	Tool	Tool Name	Function Description
		Lifting device	The lifting device is used to lift the opening unit of the chute or the cleaning unit of the flats.
		Lifting device bracket	The lifting device bracket is used to lift the opening unit of the chute or the cleaning unit of the flats.
		Transport trolley	The transport trolley is used to move the lick-in unit and doffer.
		Traverse for chute	The traverse is to be used when lifting the opening unit of the chute.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ 2 lifting devices are to be used.
- ✓ A lifting bracket is to be used.
- ✓ A trolley is to be used.
- ✓ 2 yokes are to be used.
- ✓ 2 personnel are necessary.



WARNING

Falling bracket!

Risk of injuries if the bracket falls

- Install the bracket to the card chute with the clamping piece.
- Move the clamping piece up and left to clamp the crossbar tightly.



WARNING

Falling heavy components!

Risk of injuries by crushing of the person

- Always use a safe and applicable lifting device.

1. At the 2 sides of the card chute, install the 4 pieces of rail to the machine.
2. At the front side of the card chute, install the bracket **1** at the middle position of the card chute refer to the marks **2**.

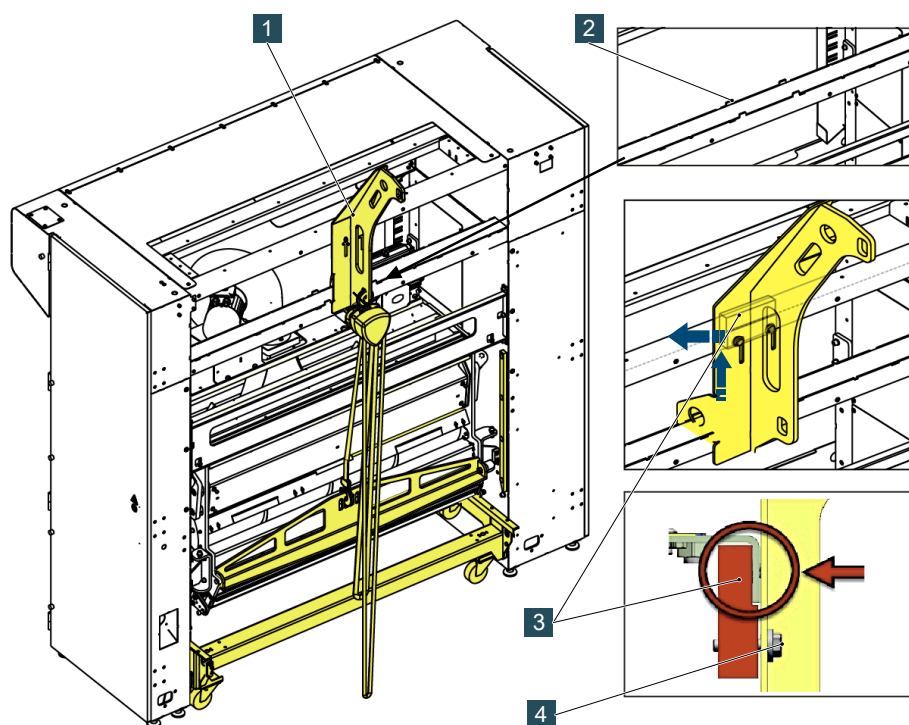


Figure 475: Installation of the opening unit

3. **WARNING! Bracket falls down! Dangerous injury if the bracket falls down.** Install the clamping piece **3** with screws **4** to the bracket **1**.
4. Slide the clamping piece **3** up and left along slot to clamp the cross bar tightly
5. Install the lifting device to the bracket **1**.
6. Tighten the screws **4**.
7. At the rear side of the card chute, install the lifting device to the lifting hole.
8. Install the yokes to the opening unit with M20 screws.
9. At the front side of the card chute, put the lifting device hook to the No.2 slot from right side of the yoke.
10. At the rear side of the card chute, put the lifting device hook to the No.3 slot from right side of the yoke.
11. Remove the 4 installation screws **5** on 2 sides of the opening unit.
12. **WARNING! Heavy components fall down! Dangerous injuries by crushing of the person.** At 2 sides of the card chute, put the opening unit slowly to the trolley by 2 personnel at the same time.

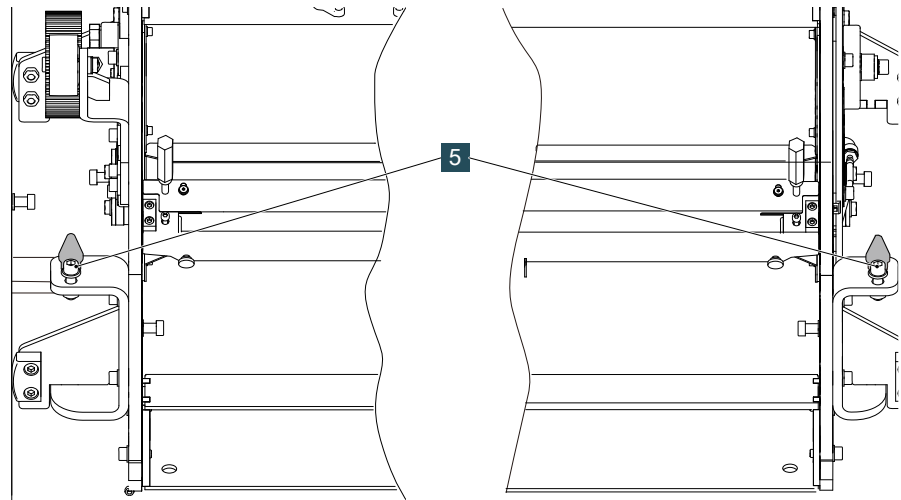


Figure 476: Installation screws

13. To install the opening unit on the trolley, use 2 pieces of M10 screws.
14. Move the trolley away.

Result The opening unit is removed from the card chute.

10.4.2 Removing the Feed Plate of the Card Chute

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening unit of the card chute is removed.
- ✓ A plastic sheet is to be used.
- ✓ A lifting device is to be used.



WARNING

Falling heavy components!

Risk of injuries by crushing of the person

► Always use a safe and applicable lifting device.

1. Remove all the covers around the feed plate.
2. Put a thin plastic sheet between feeding plate and opening roller needles.
⇒ The plastic sheet prevents damage of the opening roller needles.
3. Loosen the cap of the spring to release the load on 2 sides of the machine.
4. Loosen the screws **4** to move down the pusher **3**.

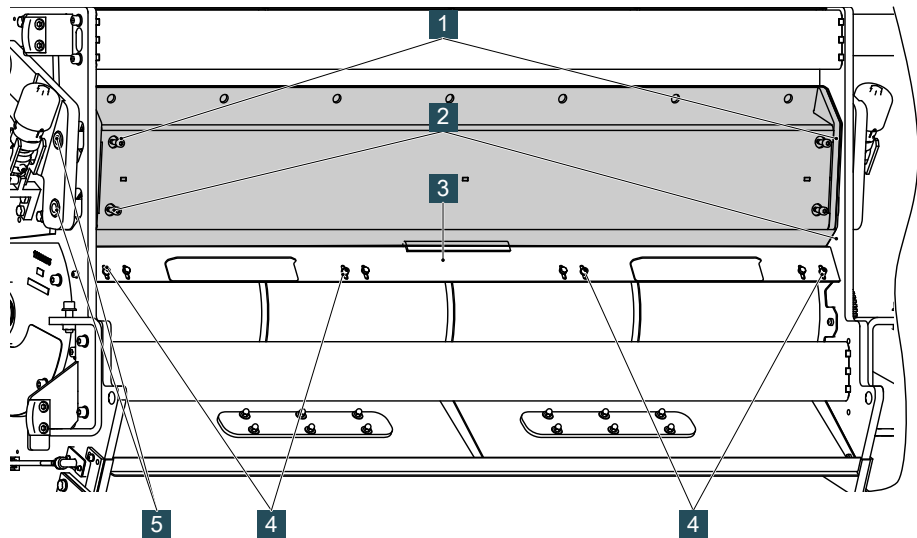
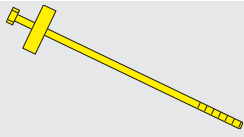


Figure 477: Removal of the feed plate

5. Remove the 4 screws of the feed plate at the position **1** and **2**.
6. Install the 2 lifting screws to feed plate at the position **1**.
⇒ The 2 lifting screws are used to lift the feed plate.
7. **WARNING! Heavy components fall down! Dangerous injuries by crushing of the person.** Install the lifting screws to the lifting device.
8. Install the M10 screws to thread of the studs **5**.
9. Hit the studs **5** lightly to remove the studs with the M10 screws on 2 sides of the machine.
10. Remove the feed plate with the lifting device.

Result The feed plate is removed.

10.4.3 Removing the Feed Roller of the Card Chute

Tool	Tool Name	Function Description
	Pull-off aid	The pull-off aid is used to remove the shaft pins of the opening roller and the feed rollers.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening unit is removed.
- ✓ The feed plate is removed.
- ✓ A thin plastic sheet is to be used.
- ✓ A pull-off is to be used.



WARNING

Falling heavy components!

Risk of injuries by crushing of the person

- Always use a safe and applicable lifting device.



NOTICE

Risk of material damage

The feed roller cannot move smoothly during lifting and lowering

- Put the thin plastic strips between the roller and the frame to prevent the felt seals damage.
- Do NOT tilt the roller when lifting and lowering the roller.

1. Remove the covers to get the access to the target part.
2. Remove the feed plate.
3. Put a plastic sheet between the feed roller **1** and the opening roller to prevent damage to the needles.

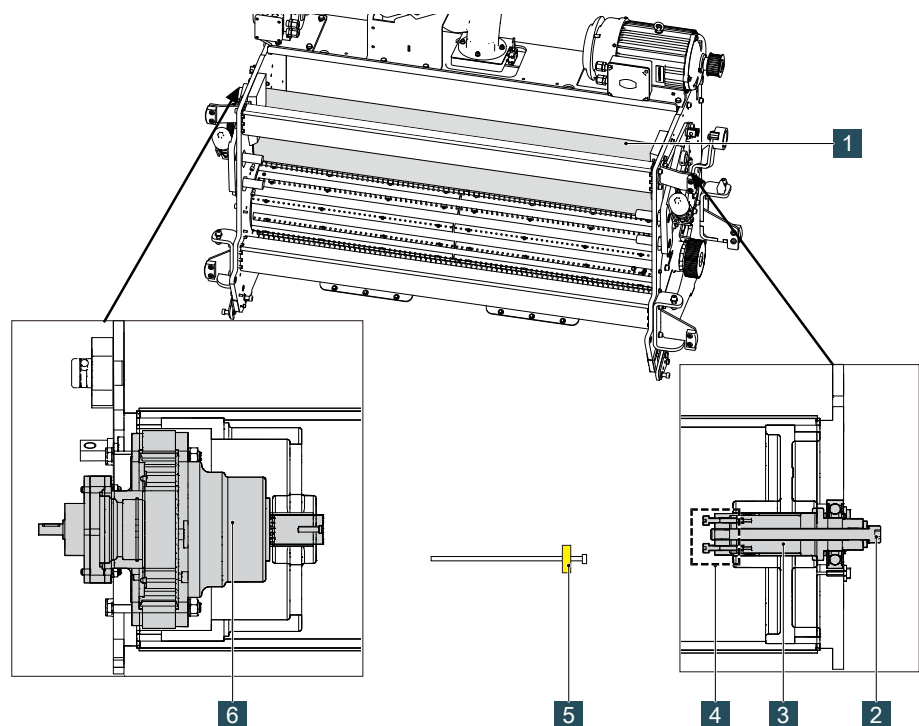


Figure 478: Feed roller of the card chute

4. Hang the feed roller **1** on a lifting device for protection.
5. At the bearing side of the feed roller **1**, loosen the screw **2** by a maximum 1 to 1.5 turns.
6. Hit the screw **2** lightly to release the tensioning element **4**.

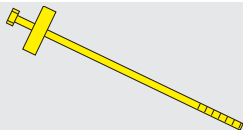
7. Remove the shaft journal **3** together with the bearing flange.
8. Remove the gearbox **6** together with the bearing flange.
9. At 2 sides of the opening unit, remove the seal and the compensating ring from the feed roller **1**.
10. **WARNING! Heavy components fall down! Dangerous injuries by crushing of the person.** Lift the feed roller **1** carefully to prevent the feed roller collision.

Result The feed roller is removed.

Removing the Seized Shaft Journal

1. Remove the screw **2**.
2. Install the pull-off aid **5** to the M16 screw thread at the end of the shaft journal **3**.
3. Hit lightly on the weight against the pull-off aid **5** until the shaft journal **3** can be removed.

10.4.4 Removing the Opening Roller of the Card Chute

Tool	Tool Name	Function Description
	Pull-off aid	The pull-off aid is used to remove the shaft pins of the opening roller and the feed rollers.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening unit is removed.
- ✓ The feed plate is removed.
- ✓ The feed roller is removed.
- ✓ A pull-off device is to be used.
- ✓ A lifting device is to be used.



WARNING

Falling heavy components!

Risk of injuries by crushing of the person

- Always use a safe and applicable lifting device.

1. Remove the drive belt.
2. To prevent the damage to the needles, remove 2 bars of needles at the bottom of the opening roller.
3. Hang the opening roller **1** on the lifting device with belt.

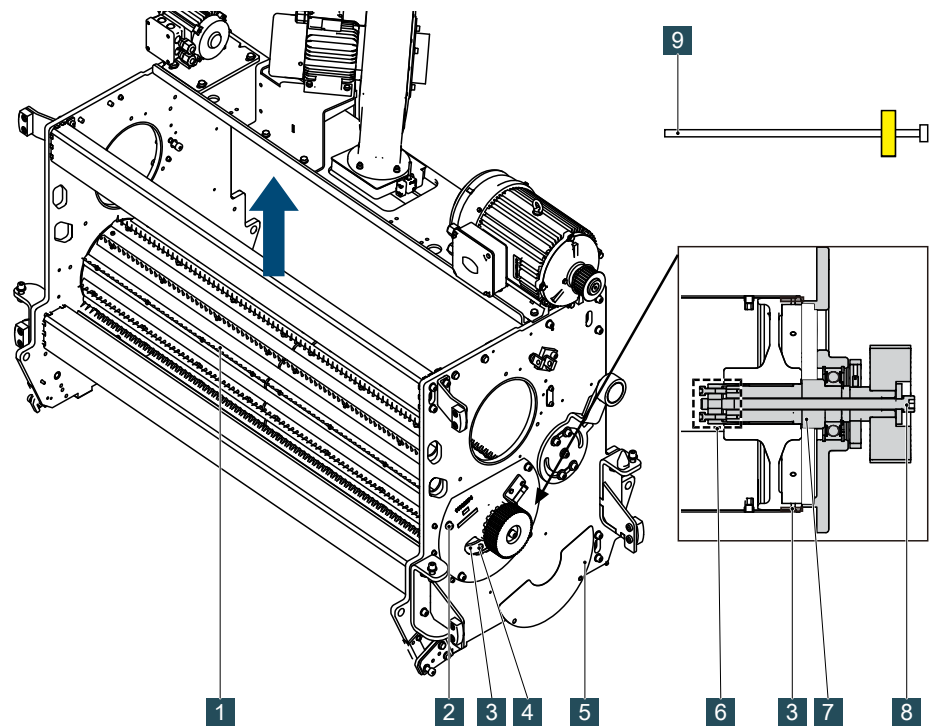


Figure 479: Removal of the opening roller

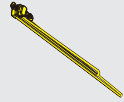
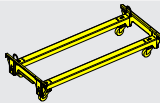
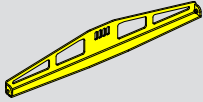
4. Remove all screws **2** of the bearing flanges.
5. Remove the covers **5** on 2 sides of the machine.
6. Remove the screws **4** to remove the felt seal **3** on 2 sides of the machine.
7. Loosen the screw **8** by a maximum 1 to 1.5 turns.
8. Hit the screw **8** to release the tensioning element **6**.
9. Pull off the shaft journals **3** together with the bearing flanges on 2 sides of the machine.
10. **WARNING! Heavy components fall down! Dangerous injuries by crushing of the person.** Remove the opening roller **1** from the top side.
⇒ The opening roller is removed.

Removing the Seized Shaft Journal

1. Remove the screw **8**.
2. Install the pull-off aid **9** to the M16 screw thread at the end of the shaft journal **7**.
3. Hit lightly against the pull-off aid **9** until the shaft journal **7** can be removed.
⇒ The shaft journal is removed.

Result The opening roller is removed.

10.4.5 Installing the Opening Unit of the Card Chute

Tools	Tool	Tool Name	Function Description
		Lifting device	The lifting device is used to lift the opening unit of the chute or the cleaning unit of the flats.
		Lifting device bracket	The lifting device bracket is used to lift the opening unit of the chute or the cleaning unit of the flats.
		Transport trolley	The transport trolley is used to move the lick-in unit and doffer.
		Traverse for chute	The traverse is to be used when lifting the opening unit of the chute.
		Guide rail	The guide rail is used to guide the direction when lifting the opening unit of the chute.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ 2 lifting devices are to be used.
- ✓ A lifting bracket is to be used.
- ✓ A trolley is to be used.
- ✓ 2 yokes are to be used.
- ✓ 2 personnel are necessary.

**WARNING****Falling bracket!**

Risk of injuries if the bracket falls

- Install the bracket to the card chute with the clamping piece.
- Move the clamping piece up and left to clamp the crossbar tightly.

**WARNING****Falling heavy components!**

Risk of injuries by crushing of the person

- Always use a safe and applicable lifting device.

1. To install the opening unit on the trolley, use 2 pieces of M10 screws.

2. Move the trolley to the card chute.
3. At 2 sides of the card chute, install 4 pieces of rails to the machine.

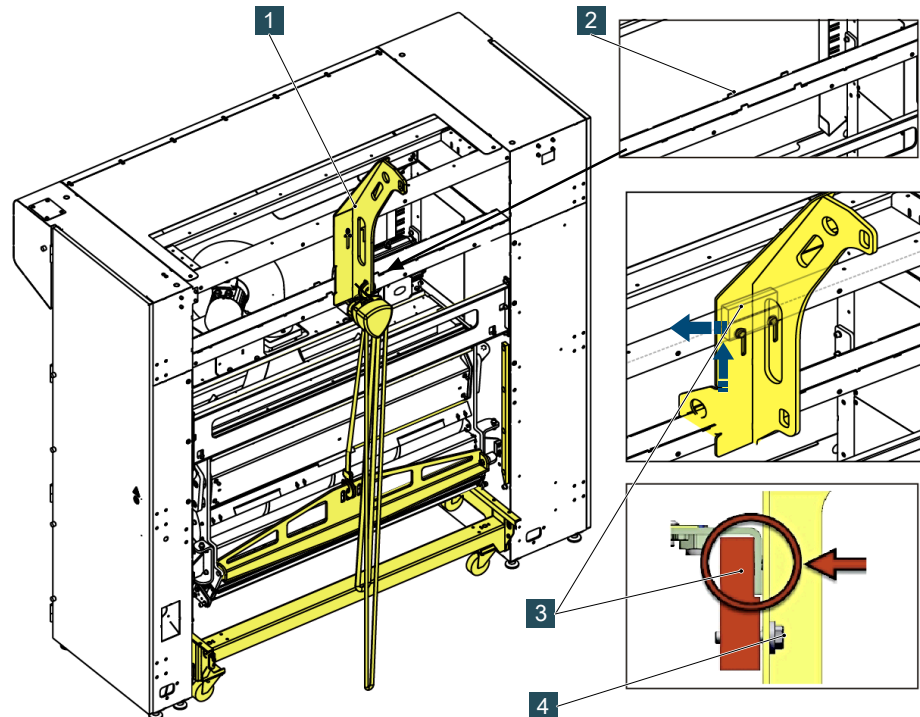


Figure 480: Installation of the opening unit

4. At the front side of the card chute, install the bracket **1** at the middle position of the card chute refer to the marks **2**.
5. **WARNING! Bracket falls down! Dangerous injury if the bracket falls down.** Install the clamping piece **3** with screws **4** to the bracket **1**.
6. Slide the clamping piece **3** up and left to clamp the cross bar tightly.
7. Tighten the screws **4** tightly.
8. Install the lifting device to the bracket **1**.
9. At the rear side of the card chute, install the lifting device to the lifting hole.
10. Install the yokes to the opening unit with M20 screws.
11. At the front side of the card chute, put the lifting device hook to the No.2 slot from right side of the yoke.
12. At the rear side of the card chute, put the lifting device hook to the No.3 slot from right side of the yoke.
13. **WARNING! Heavy components fall down! Dangerous injuries by crushing of the person.** At 2 sides of the card chute, 2 personnel lift the opening unit slowly to the installation position at the same time.
14. Make sure that the positioning bolt **6** is through the positioning hole.

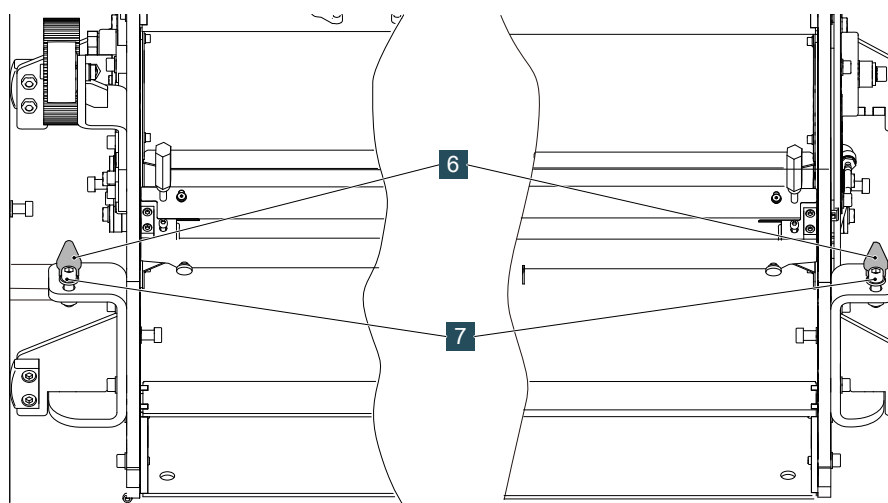


Figure 481: Positioning bolt

15. To install the opening unit, use 4 pieces of M12 screws **7**.
16. Make sure that the top seal of the opening unit is at a right position.
17. Remove all tools.

Result The opening unit is installed to the card chute.

10.4.6 Installing the Opening Roller of the Card Chute

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening unit is removed.
 - ✓ The feed roller and the feed plate are removed.
 - ✓ A lifting device is to be used.
 - ✓ A torque wrench with a tightening torque 130 Nm is to be used.
 - ✓ 4 sets of card gauge are to be used.
 - ✓ Adhesive Loctite 243 is to be used.
1. Select the correct direction of the opening roller in the reference to the tilt of the needles.

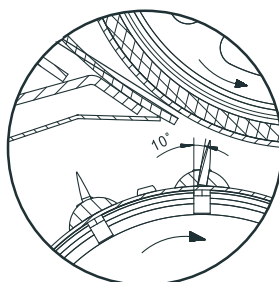


Figure 482: Direction of the needles

2. Use the lifting device to put the opening roller in the correct position from the top side.

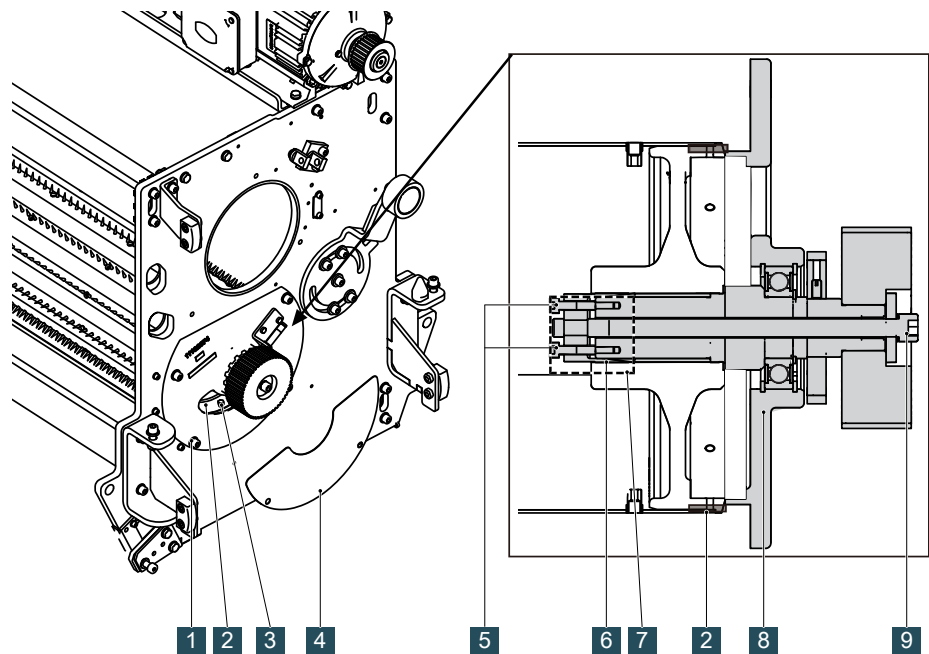


Figure 483: Opening roller

3. Apply the oil on the surface of the tensioning element **7** and the slots **6**.
4. Apply the grease on the thread of the screw **9** and the area that around the screw head of screw **9**.
5. The slots **6** of the tensioning element are offset by 90 degrees to each other.
6. Tighten the screws **5** firmly with adhesive Loctite 243.
7. Install the shafts together with the bearing flanges **8** to the machine on 2 sides of the machine.
8. Install the screws **1** on 2 sides of the machine.
9. At the drive side of the opening roller, put the card gauge with the thickness of 1 mm between the opening roller and the frame.
10. At the slave side of the opening roller, put the card gauge with the thickness of 3 mm between the opening roller and the frame.
11. At the drive side of the opening roller, tighten the screws **9** with tightening torque of 130 Nm.
12. Examine again the distances between the opening roller and the frame.
13. At the slave side of the opening roller, tighten the screws **9** with tightening torque of 130 Nm.
14. Examine again the distances between the opening roller and the frame.
 - ⇒ On the slave side of the machine, the distance between the opening roller and the frame is 3 mm.
 - ⇒ On the drive side of the machine, the distance between the opening roller and the frame is 1 mm

15. Install the seals **2** with the screws **3** on 2 sides of the machine.
16. Install the cover **4**.
17. Turn the opening roller by hand to examine if the opening roller moves smoothly.

Result The opening roller is installed.

10.4.7 Installing the Feed Roller of the Card Chute

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening unit is removed.
 - ✓ A set of card gauge is to be used.
 - ✓ A plastic sheet is to be used.
 - ✓ A torque wrench with a tightening torque 130 Nm is to be used.
 - ✓ Adhesive Loctite 243 is to be used.
1. Make sure that the tensioning element and the gearbox unit are in a good condition.
 2. To prevent the damage of the opening roller needles, put a thin plastic sheet on the opening roller.
 3. Apply oil on the surface of the tensioning element **6** and the slots **7**.

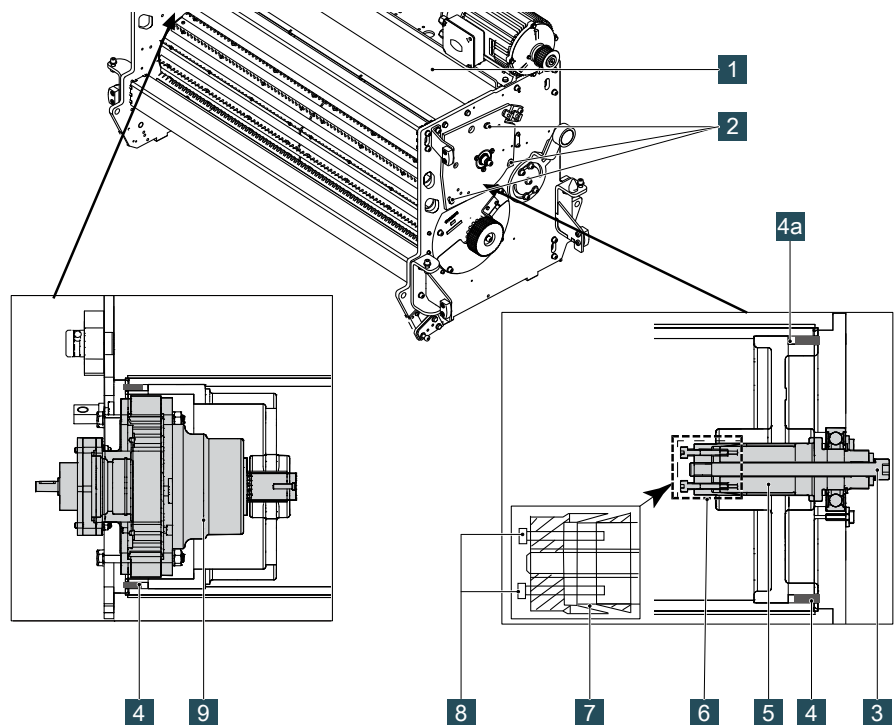


Figure 484: Installation of the feed roller

4. Apply the grease on the thread of the screw **3** and the area that around the screw head of screw **3**.

5. Make sure that the slots **7** of the tensioning element are offset by 90 degrees to each other.
6. Tighten the screws **8** with adhesive Loctite 243 firmly.
7. Use the lifting device to put the feed roller **1** at the correct position.
8. Install the felt seal **4** and compensating ring **4a** to the feed roller **1** on the drive side.
9. Install the bearing flange together with the gearbox unit **9** to the feed roller **1** on the drive side.
10. Install the felt seal **4** and compensating ring **4a** to the feed roller **1** on the slave side.
11. Install the bearing flange together with bearing unit **5** to the feed roller **1** on the slave side.
12. Install the screws **2** on 2 sides of the machine.
13. Make sure that the distance between the feed roller **1** and the frame is 1.5 mm on 2 sides of the machine.
14. Tighten the screw **2** with tightening torque of 130NM.
15. Examine again the distance between the feed roller **1** and the frame.

Result The feed roller of the card chute is installed.

10.4.8 Installing the Feed Plate of the Card Chute

Prerequisites Make sure that the criteria are obeyed:

- ✓ The opening unit of the card chute is removed.
 - ✓ A lifting device is to be used.
1. Set the eccentrics **4** at the widest position on 2 sides of the machine.

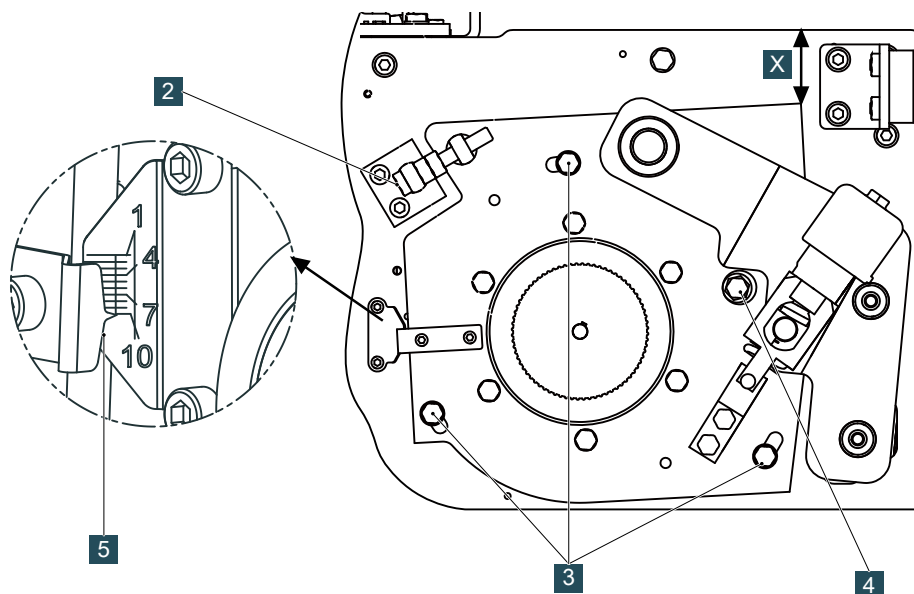


Figure 485: Adjustment of the staple length scale

2. Apply the grease to the holes, screws, and studs.
3. Make sure that the seals of the feed plate are in a good condition.
4. Install the lifting screw on the feed plate at the position **6**.

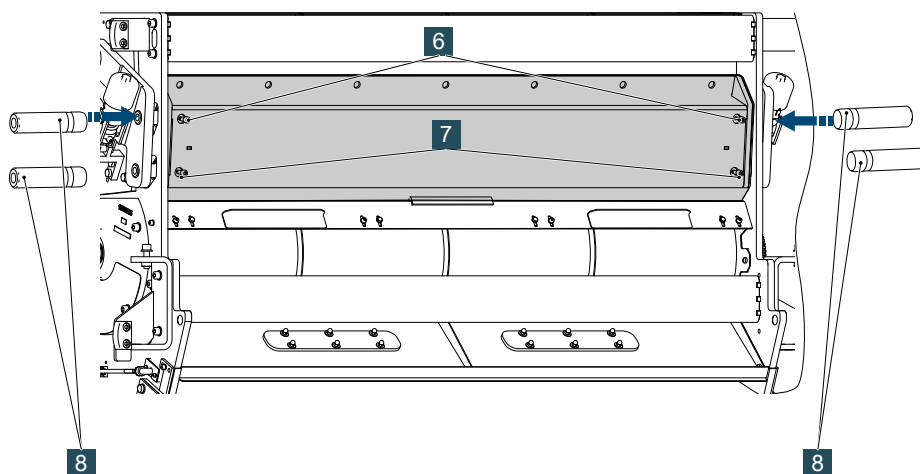


Figure 486: Feed plate

5. Lift the feed plate with the lifting device.
6. Put a screwdriver in the position **7** to move the feed plate to the installation position.
7. Install the stud **8** into the feed plate on 2 side of the machine.
⇒ The thread hole of the stud is at the outside.
8. Install the screws at the position **6** and **7**.
9. Install the spring units on 2 sides of the machine.

10. Turn the eccentrics **4** on 2 sides of the machine to adjust the distance between the feed plate and the feed roller.
11. Measure the distance between the feed plate and the feed roller more than 3 measuring points.
 - ⇒ The distance between the feed plate and the feed roller is in the range from 1 mm to 1.2 mm.
12. Set the spring load at point 5 on 2 sides of the machine.
13. Set the initial staple length.

Result The feed plate is installed.

Setting the Initial Staple Length

1. Loosen the screws **3**.
2. Turn the screw **2** to change the distance **X** by less than 1 mm.
3. On the other side of the machine, turn the screw **2** to change the distance **X** by less than 1 mm
4. Do the steps 2 and 3 until the distance **X** is 60.9 mm on 2 sides of the machine.
5. Tighten the screws **3**.
6. Set the scale **5** is at the point 10.

Result The initial staple length is set.

10.4.9 Replacing the Needles bars

This section contains the information about how to replace the needles bars.

Removing the Needles bars

- Prerequisites** Make sure that the criteria are obeyed:
- ✓ Adhesive LOCTITE 243 is to be used.
 - ✓ Silicone is to be used.
1. Remove the screws **1**.

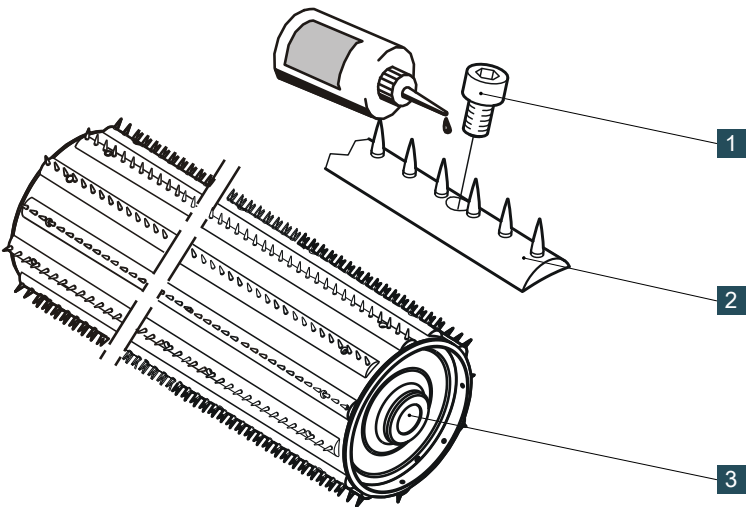


Figure 487: Needles bar assembly

- 2. Remove the needles bar 2 from the opening roller 3.
⇒ The needles bars are removed.

Installing the Needles bars

- 1. Install the needle bar assembly 2 on the opening roller 3 with the screws M6*16 1.
- 2. Apply the adhesive LOCTITE 243 on the screws threads.
- 3. Install the screws 1 from the center of the needle bar assembly 2 with a 10 Nm tightening torque.
- 4. Seal the small distance between the needle bar assembly 2 and the opening roller 3 with silicone.
- 5. Make sure that there are no fibers hanging at the openings.
⇒ The needles bars are installed.

Result The needles bars are replaced.

10.5 Licker-in Unit

This chapter contains the information about how to repair the licker-in unit.

10.5.1 Removing the Licker-In Unit

Tools	Tool	Tool Name	Function Description
		Transport trolley	The transport trolley is used to move the licker-in unit and doffer.

Tool	Tool Name	Function Description
	Adjusting tool	The adjusting tool is used to lift the licker-in unit to the cylinder.

Prerequisites Make sure that the criteria are obeyed:

- ✓ An adjusting tool is to be used.
- ✓ A transport trolley is to be used.



CAUTION

Crushing of the hands!

Risk of injury to the hands because of the falling of heavy parts.

► Do **NOT** put the hands below the heavy parts.

- Before removing the licker-in unit, set the ejection distance of mote knife is 55 mm in the data screen 2.1.3.
- Remove the air pipe **1**, feed channel **2**, conveyor channel **3** and suction pipe **4**.

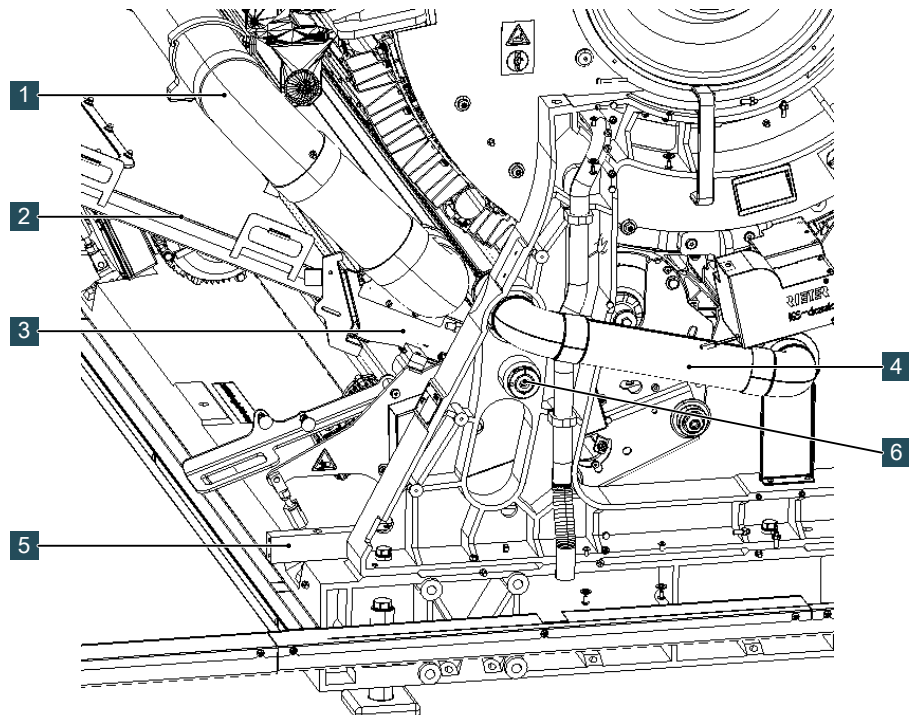


Figure 488: Preparation for licker-in unit removal

- Disconnect the cables of the licker-in motor and mote knife motor.
- Disconnect the cables from the sensors at the licker-in unit.

5. Set the cables down to prevent the cables from damage when the licker-in unit is moved out.
6. Align the transport trolley to the rail **5**.
7. Attach the transport trolley to the rail **5** with screws M8×20.
8. **CAUTION! Crushing of the hands! Risk of injury to the hands because of the falling of the heavy parts.** Remove the adjusting spindle **9** on 1 side of the machine.

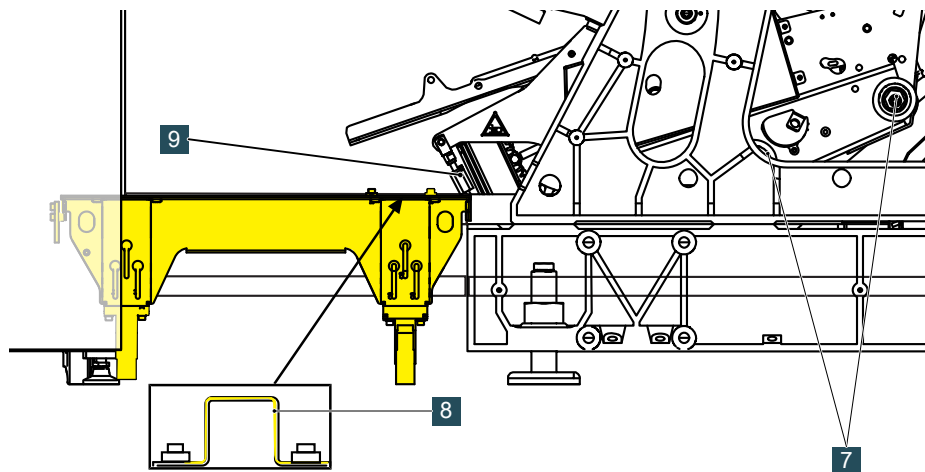


Figure 489: Removal of the licker-in unit

9. Install the adjusting tool.

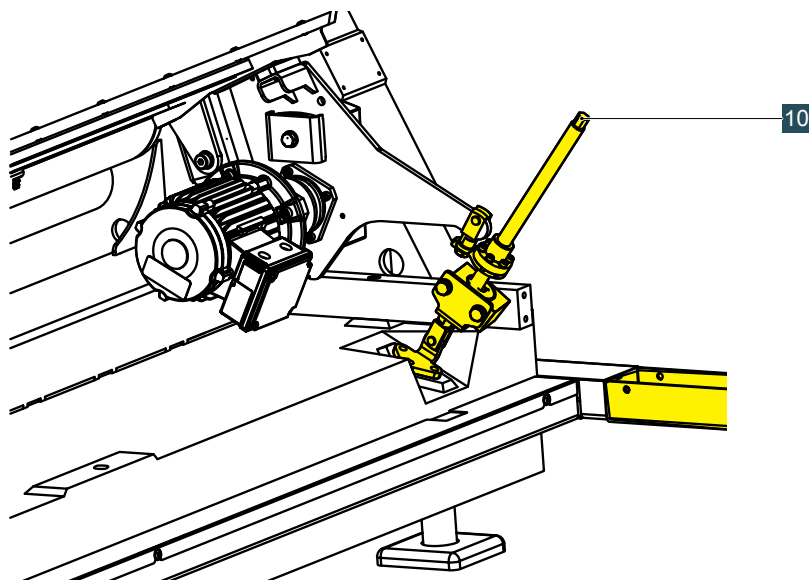


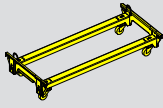
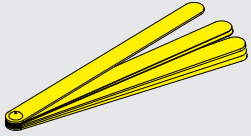
Figure 490: The adjusting tool

10. Remove the adjusting spindle **9** on the other side of the machine.
11. Turn the part **10** to lift the adjusting tool until the rolls **7** touch the rail **5**.
12. Remove the 2 sharing pins **6** from each side of the machine.

13. Push the licker-in unit carefully onto the transport trolley.
14. Attach the rolls **7** tightly with the bracket **8** to the transport trolley.
15. Move the transport trolley below the card chute.
⇒ The licker-in unit is removed.

10.5.2 Installing the Licker-In Unit

Tools

	Adjusting tool	The adjusting tool is used to lift the licker-in unit to the cylinder.
	Transport trolley	The transport trolley is used to move the licker-in unit and doffer.
	Card gauge	The card gauge is used to measure the distance between the machine parts.

Prerequisites Make sure that the criteria are obeyed:

- ✓ An adjusting tool is to be used.
- ✓ A transport trolley is to be used.
- ✓ A set of card gauge is to be used.



CAUTION

Crushing of the hands!

Risk of injury to the hands because of the falling of heavy parts.

- Do **NOT** put the hands below the heavy parts.

1. Install the licker-in unit on the trolley.
2. At 2 sides of the trolley, use the bracket **1** to attach the rolls of the licker-in unit to the trolley firmly.

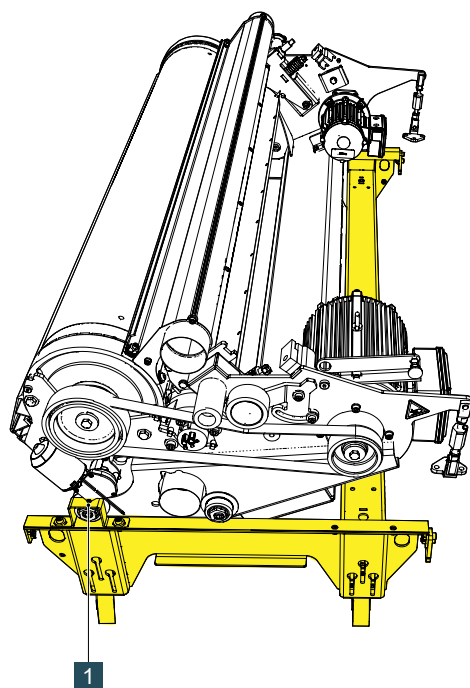


Figure 491: Licker-in unit is on the trolley

3. Move the trolley under the chute to make sure that the trolley aligns to the rails of the machine frame.

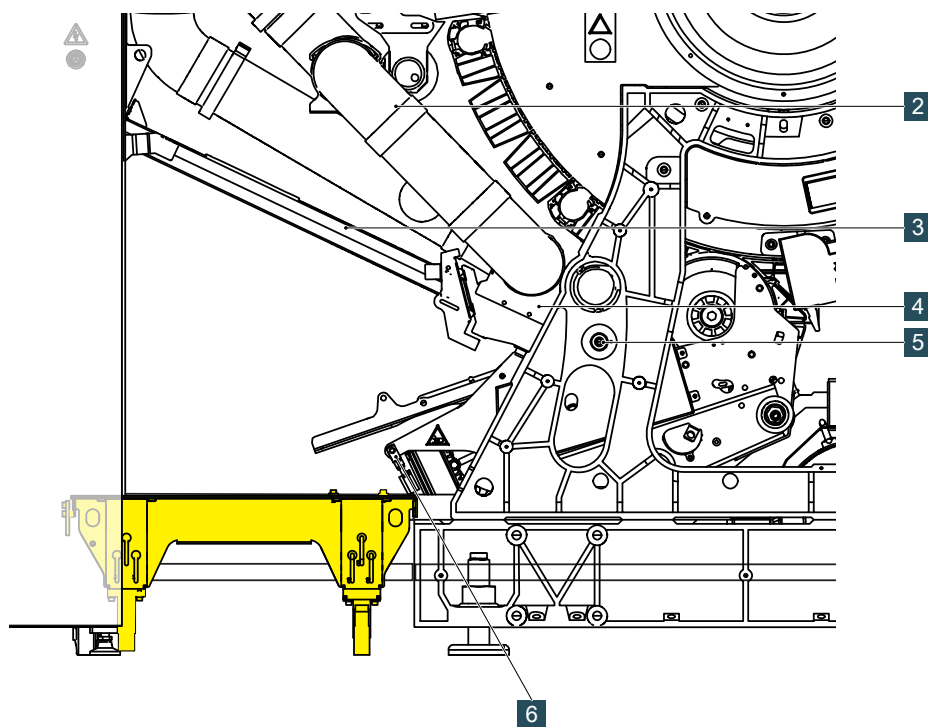


Figure 492: Installation of the licker-in unit

4. Adjust the height of the trolley to make sure that the level of the trolley and the rails are same.
5. Use the screws to attach the trolley to the rails firmly.
6. Push the licker-in unit from the transport trolley through the guide rails to the machine frame.
7. Replacing the transporting pins with the shearing pins **5** on the 2 sides of the machine (Replacing the Transporting Pin with Shearing Pin).

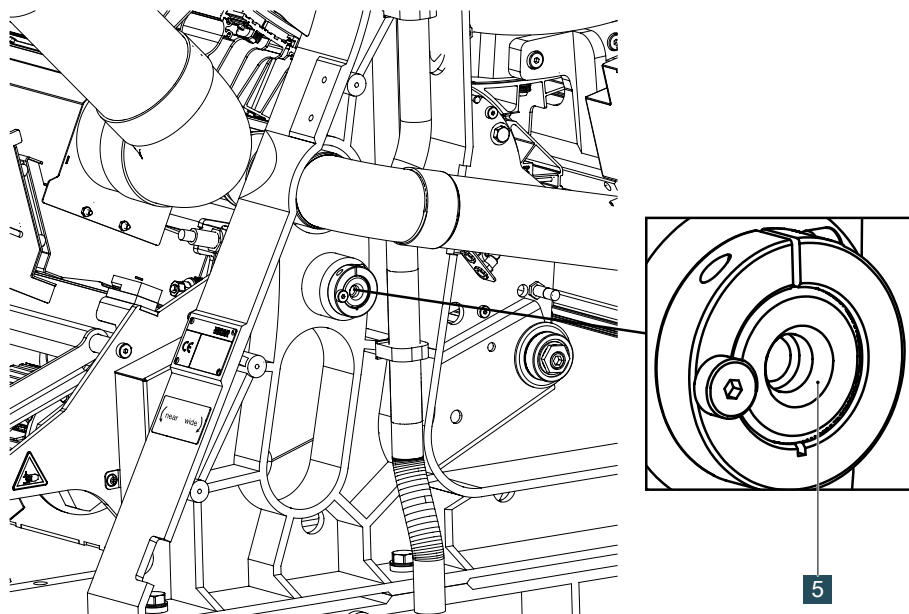


Figure 493: Shearing pin

8. On one side of the machine, install the adjusting tool **7**.

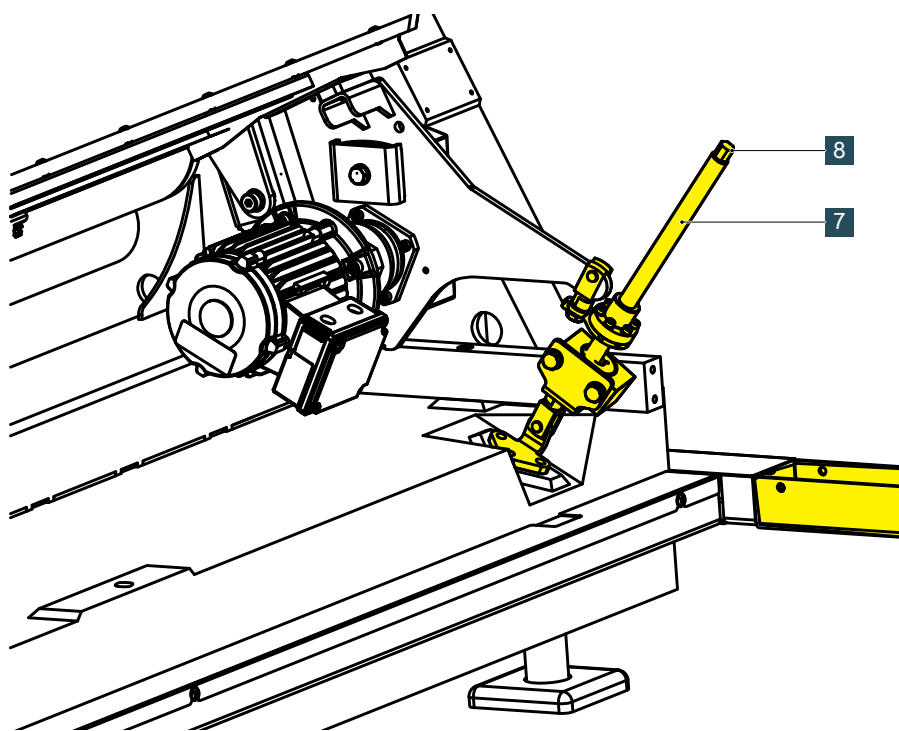


Figure 494: The adjusting tool

9. Remove the IGS-Classic unit before measuring the distance between the licker-in unit and cylinder.
10. To measure the distance between the licker-in roller and cylinder, insert the card gauge in the direction of the arrow.

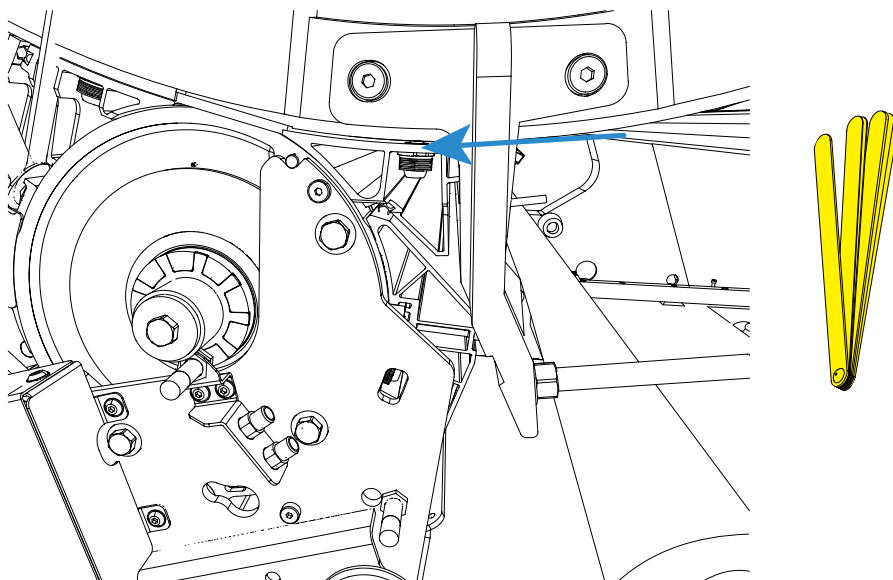


Figure 495: Measurement of the distance

11. Turn the part **8** of the adjusting tool **7** to lift the licker-in to the cylinder until the distance between the licker-in and the cylinder is 1 mm.

12. On the other side of the machine, install the adjusting spindle **6**.
13. **CAUTION! Crushing of the hands! Risk of injury to the hands because of the falling of heavy parts.** Remove the adjusting tool to install the adjusting spindle **6**.

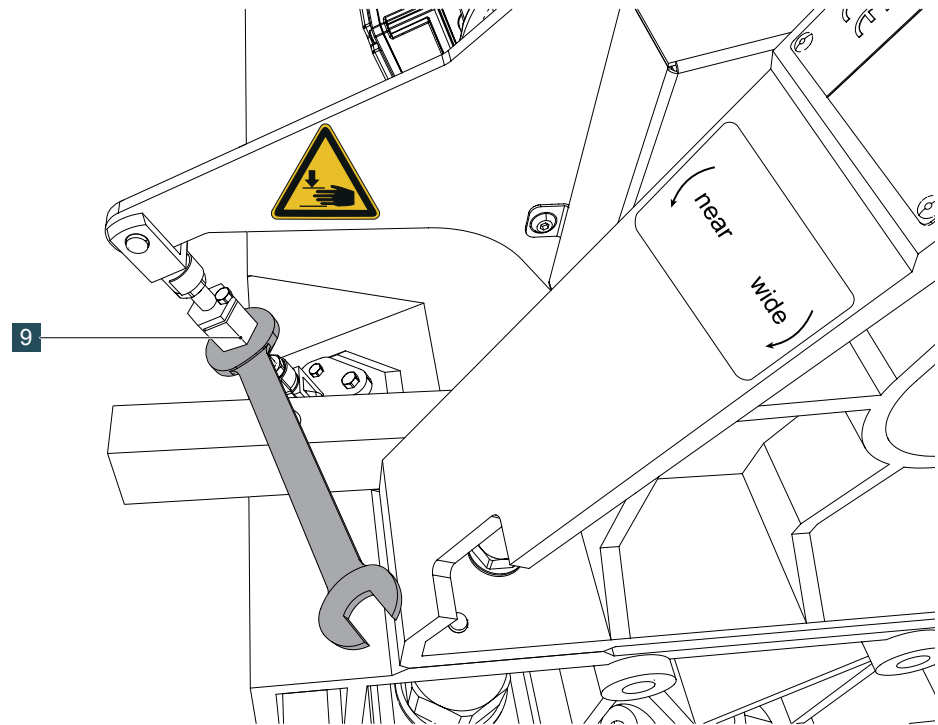


Figure 496: Adjusting spindle

14. On both side of the machine, use the spanner to turn the bolt **9** to adjust the distance between the licker-in and the cylinder.
 - ⇒ The value of the distance (L09) is shown in the machine setting sheet
(Machine Setting Sheets ▶ 250)
15. Install the pipes **2**, the feed channel **3**, and the bottom feed channel **4**.
16. Connect all cables and pneumatic tubes.

Result The licker-in unit is installed.

10.5.3 Removing the Feed Plate

Prerequisites Make sure that the criteria are obeyed:

- ✓ The licker-in unit is removed.
 - ✓ A thin plastic sheet is to be used.
1. Disconnect the cable of the sensor.
 2. Loosen the nut **1** on the 2 sides of the machine.

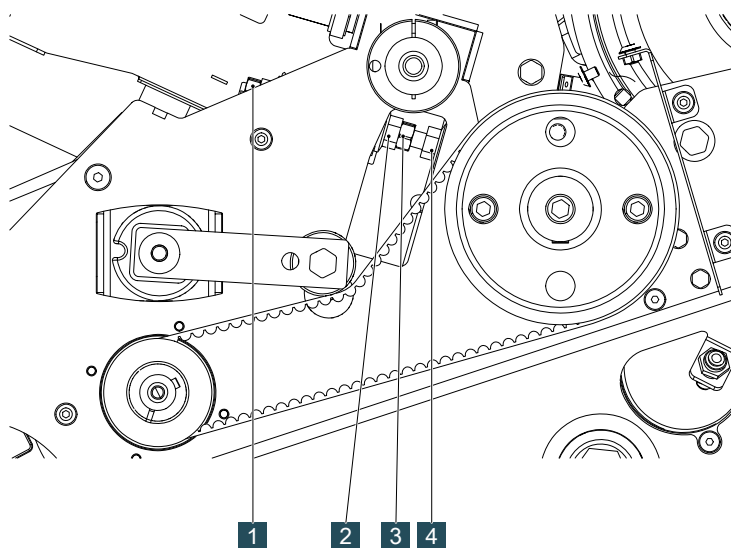


Figure 497: Adjusting spindle

3. Remove the springs on the 2 sides of the machine.
4. To prevent the damage of the licker-in roller, put a thin plastic sheet between the feed roller and the licker-in roller.
5. Remove the screw **5** on the 2 sides of the feed plate **6**.

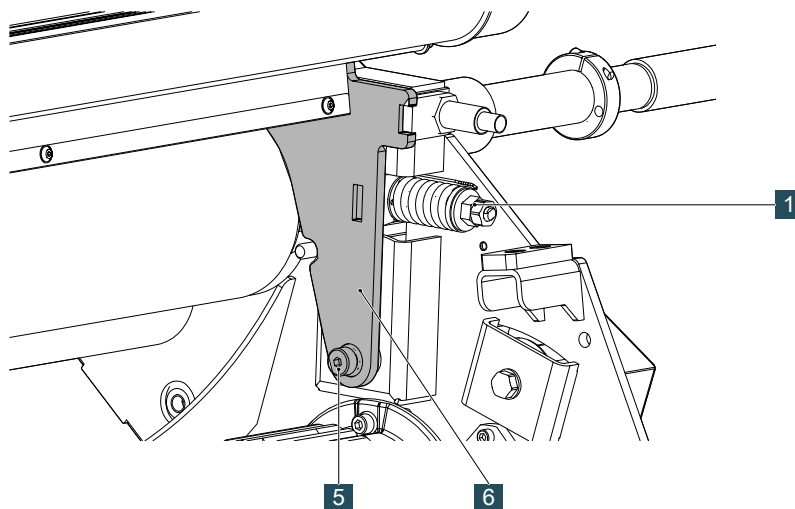


Figure 498: Screw of the feed plate

6. Remove the feed plate **6**.
7. Keep the nuts **2**, **3** and **4** at the machine.
 ⇒ The positions of the nuts **2**, **3** and **4** record the correct spring load.

Result The feed plate is removed.

10.5.4 Installing the Mote Knife on the First Licker-In

Prerequisites Make sure that the criteria are obeyed:

✓ A torque wrench with a tightening torque 4 Nm is to be used.

1. Move the mote knife **2** to the middle of the carrier.

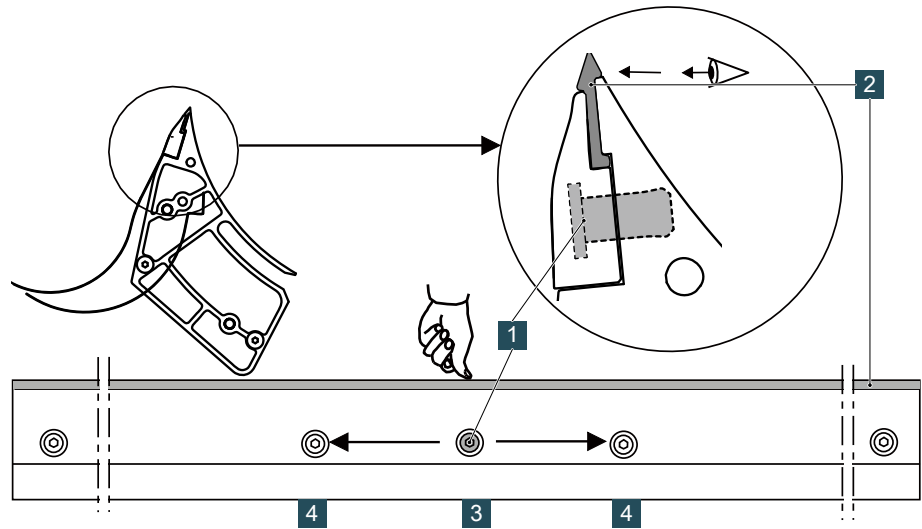


Figure 499: Mote knife on the first licker-in

2. Tighten the screw **1** lightly.
3. Push the mote knife **2** at the center point **3** against the stop surface and tighten the screw **1** with the tightening torque of 4 Nm at the center point **3**.
4. Tighten the screws **1** at the left point **4** and the right point **4** of the center point **3**.

Result The mote knife on the first licker-in is installed.

10.5.5 Replacing the Licker-In Belt

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

Removing the Licker-In Belt

1. Loosen the screw **2**.
2. Loosen the screw **3** lightly.

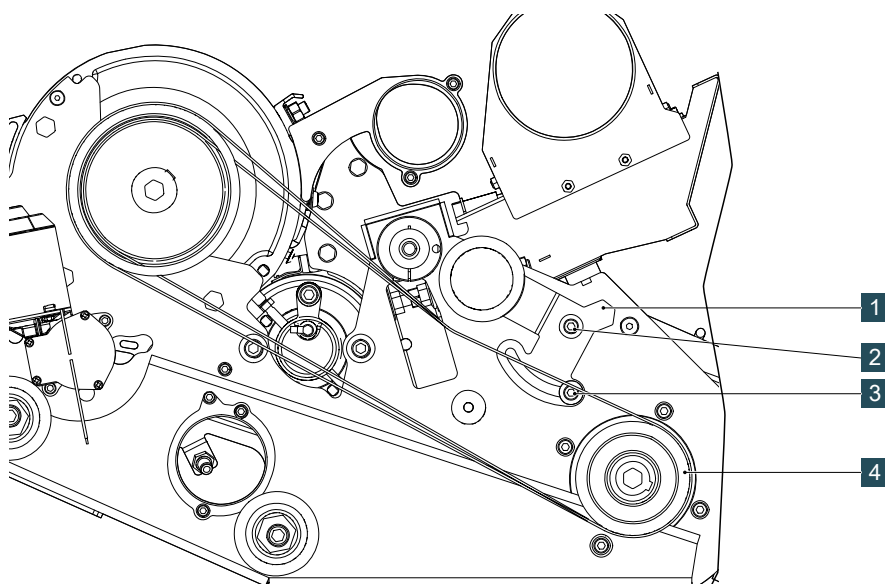


Figure 500: Licker-in belt

3. Use an open-end wrench to turn the belt tensioner **1**.
⇒ The belt tensioner **1** is released.
4. Remove the licker-in belt.
⇒ The licker-in belt is removed.

Installing the Licker-In Belt

1. Make a mark of the 200 mm distance at the new licker-in belt.

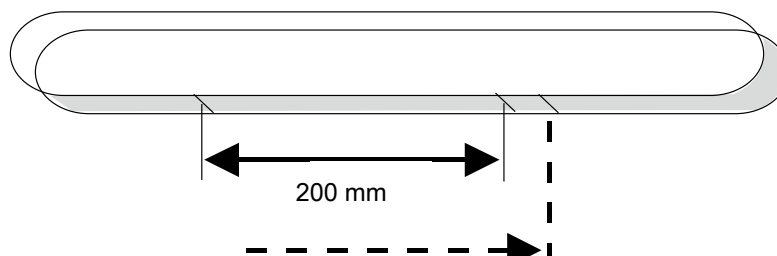


Figure 501: Marks at the licker-in belt

2. Install the new licker-in belt.
3. Use an open-end wrench to turn the belt tensioner **1** lightly.
⇒ The licker-in belt is tightened lightly.
4. Turn the pulley **4** to move the belt a small distance.
5. Do the step 7 and the step 8 more than 2 times to make sure that the tension is applied equally to the licker-in belt.
6. Make sure that the distance is: $200 \text{ mm} + 1.6 \% \text{ tension} = 203.20 \text{ mm}$.
7. Tighten the screws **2** and **3**.

⇒ The licker-in belt is installed.

Result The licker-in belt is replaced.

10.5.6 Adjusting the Licker-In Belt to the Center Position

Prerequisites Make sure that the criteria are obeyed:

- ✓ A hexagonal key is to be used.
- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Loosen the screw **1**.

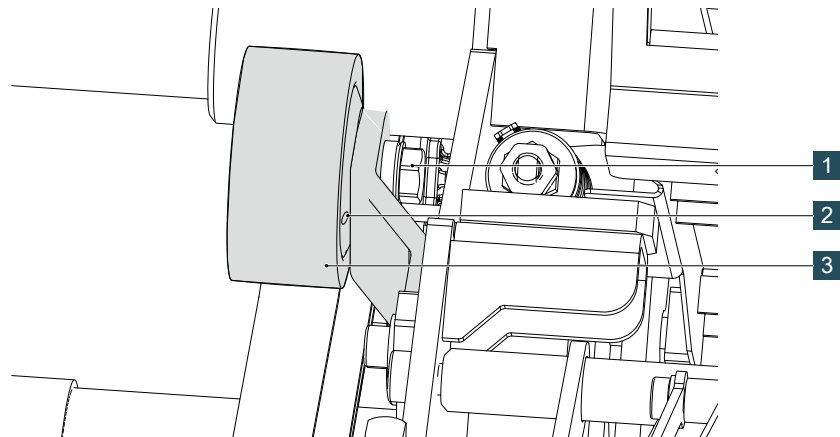


Figure 502: Adjustment of the belt position

2. Put the hexagonal key into the hole **2** of the belt tensioner.
3. Turn the roll **3** with the hexagonal key lightly until the licker-in belt is in the center position.
4. Tighten the screw **1**.

Result The licker-in belt is adjusted to the center position.

10.5.7 Replacing the Seal of the Bottom Feed Channel

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

1. Remove the bottom feed channel.
2. Remove all the screws **1**.

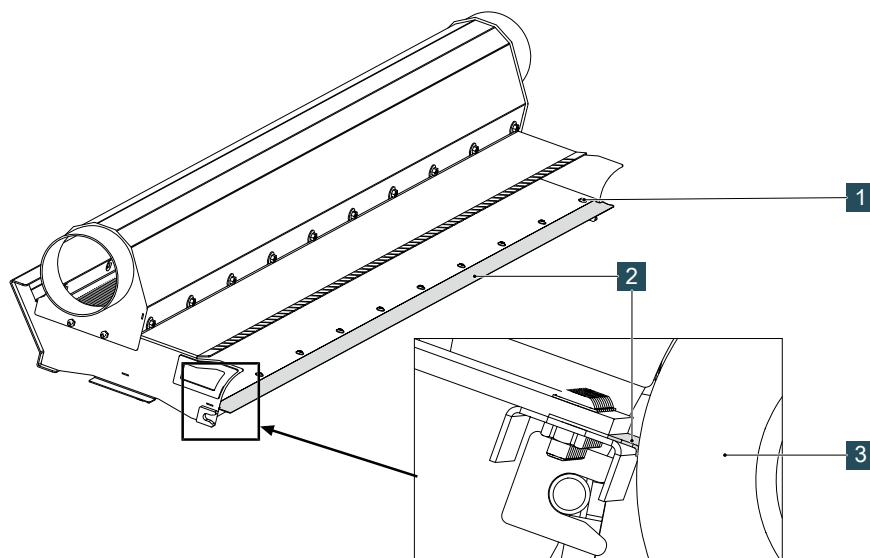


Figure 503: Bottom feed channel

3. Replace the seal with a new seal **2**.
4. Install the bottom feed channel.
5. Bend the new seal **2** lightly to make sure that the new seal **2** touches the feed roller **3** correctly.

Result The seal of the bottom feed channel is replaced.

10.5.8 Removing the Air Pipes from Licker-in

For an easy removal, the user removes the air pipes in the below sequence is necessary.

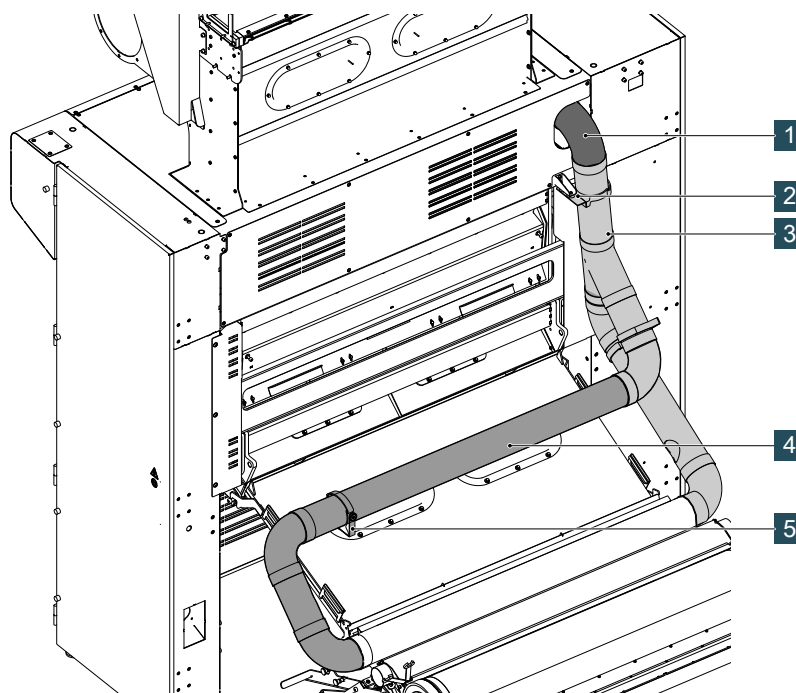


Figure 504: The air pipes of lick-in

1. Remove the pipe **4**.
2. Disconnect the magnet of the pipe holder **5** from the machine bracket.
3. Remove the pipe **3**.
4. Disconnect the magnet of the pipe holder **2** from the machine bracket.
5. Remove the pipe **1**.

Result The air pipes are removed.

10.6 Cylinder

This chapter contains the information about how to repair the cylinder.

10.6.1 Replacing the Carding Profiles

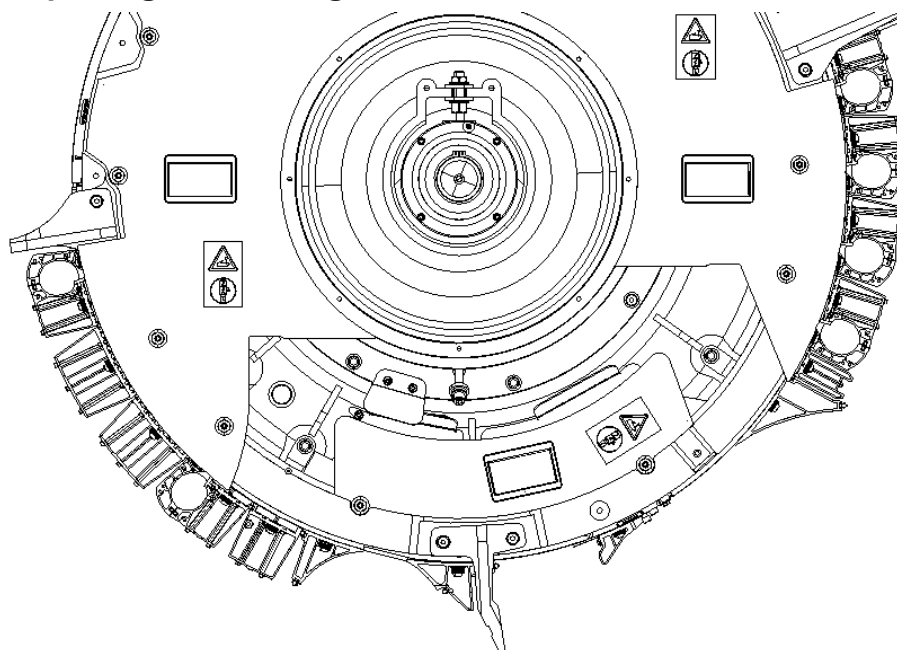


Figure 505: Carding profiles

Removing the Carding Profiles

1. Mark each carding profile and knife holder both in the pre-carding zone and post carding zone.
2. Remove the sealing **2**.

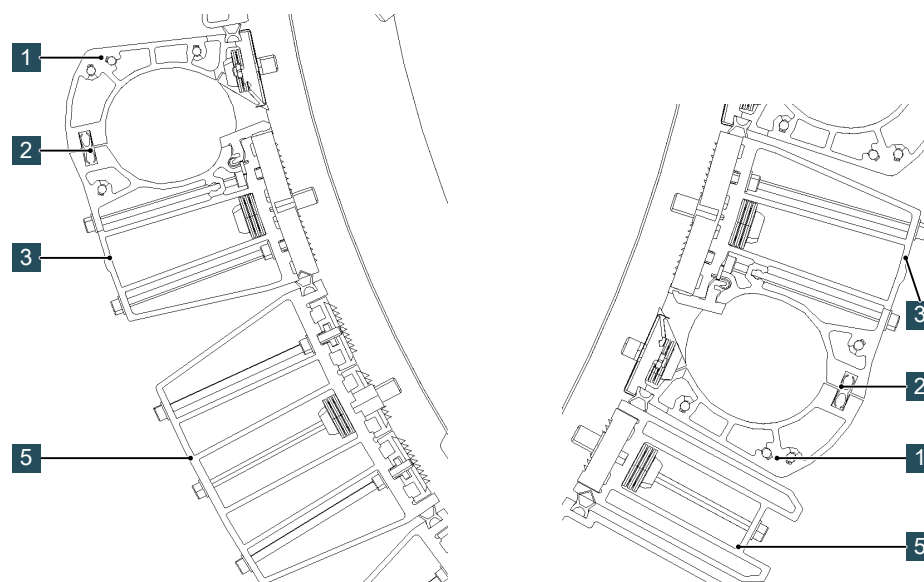


Figure 506: Removal of the carding profiles

3. Remove the carding profiles **5**.

4. Before removing the knife holder **1**, mark the knife holder **1** to prevent of mistaking the install position.
5. Remove the knife holder **1**.
6. Remove the carding profiles **3**.
⇒ The carding profiles are removed.

Installing the Carding Profiles

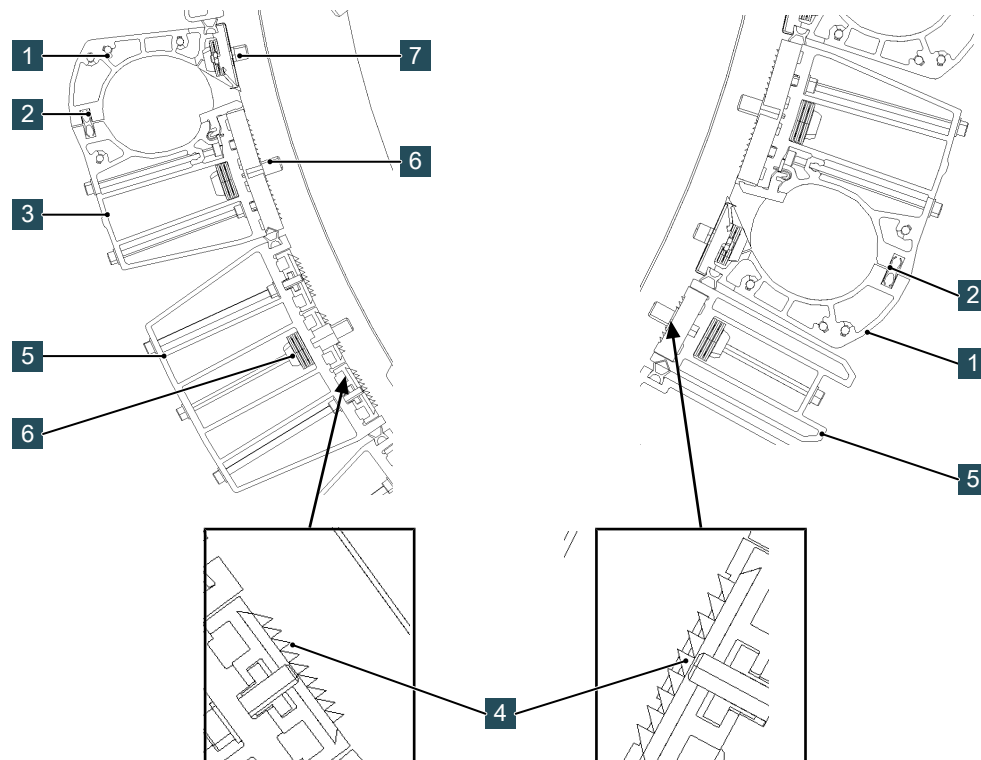


Figure 507: Installation of carding profiles

1. Align the carding profiles **5** before the installation, make sure that the direction of the clothing teeth **4** is correct as shown in below figure.

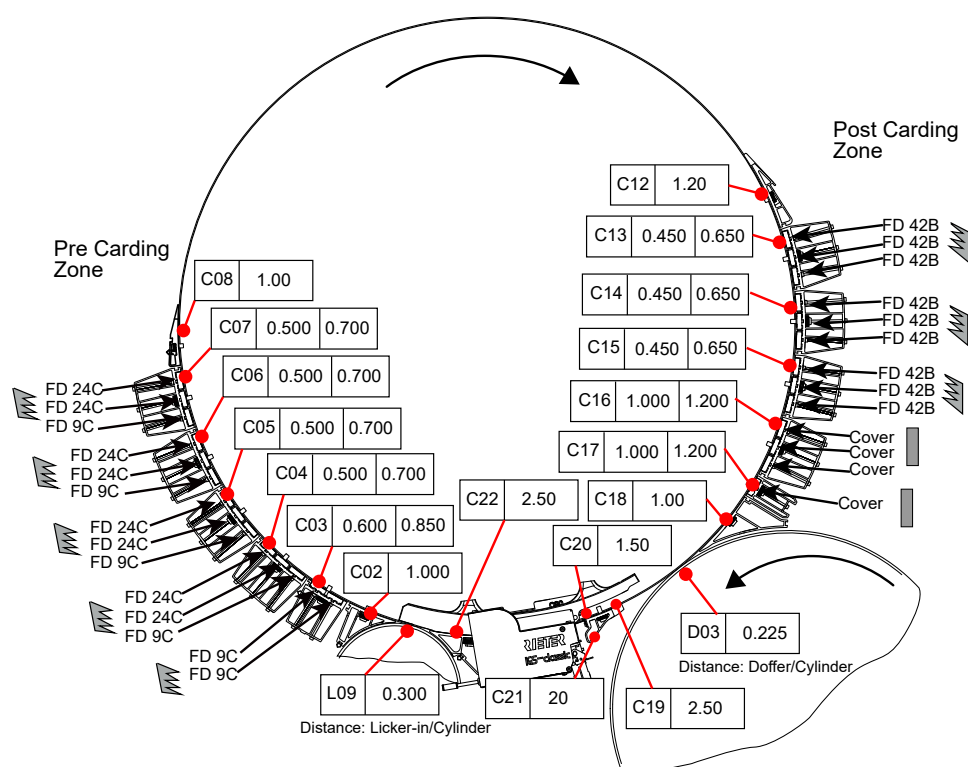


Figure 508: Setting sheet (viscose)

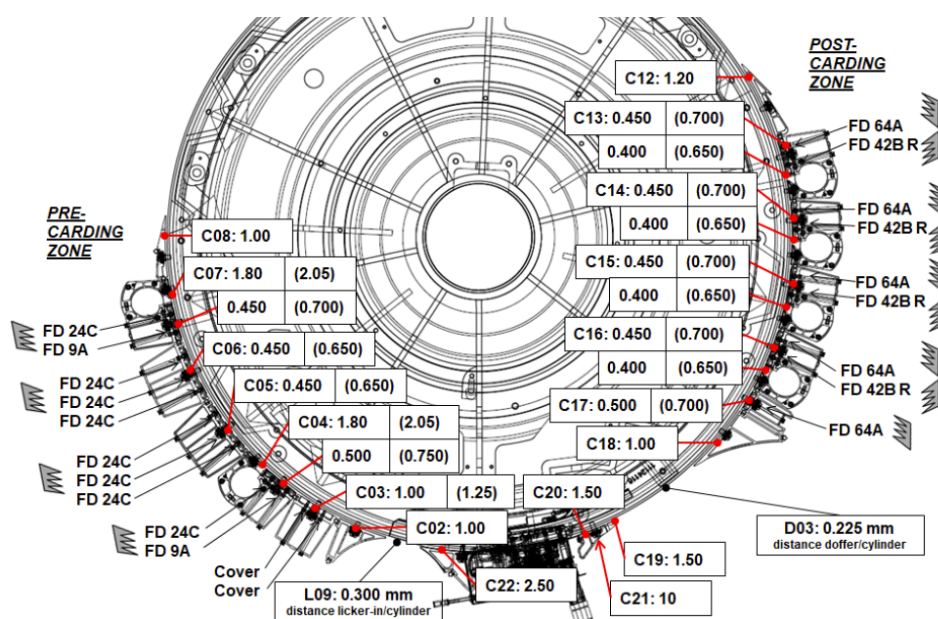


Figure 509: Setting sheet (cotton)

1. Make sure that the carding profile is installed at the same location where it was removed.
2. In the post-carding zone install the knife holder **1** with the screw **7**.
3. Fasten the carding profiles **3** with the screws **6**.

4. Fasten the carding profiles **5** with the screws **6**.
5. Install all the sealing **2**.
⇒ The carding profiles are installed.

Result The carding profiles are replaced.

10.7 Card Flats

This chapter contains the information about how to do the repair work in area of the card flats.

10.7.1 Card Flat Belt and Deflection Pulleys

This section contains the information about the repair work at the card flat belt and the deflection pulleys.

10.7.1.1 Examining the Deflection Pulleys

The deflection pulleys that do not turn can have a negative effect on the service life of the planetary gear of the drive unit of the card flats.

Prerequisites Make sure that the criteria are obeyed:
✓ A flashlight is to be used.

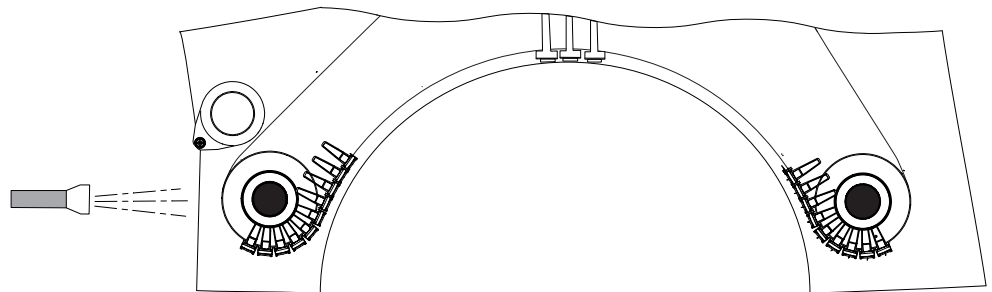
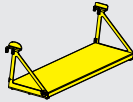


Figure 510: Deflection pulleys

1. Open the folding doors at left and right side of the machine.
2. Examine if all deflection pulleys turn together with the card flats.
3. If a deflection pulley does not turn correctly or does not turn, repair the related deflection pulley.
4. Remove the card flats.
5. Remove the deflection pulley of the card flats.
6. Clean the deflection pulley.
7. Replace the bearing of the deflection pulleys if necessary (*refer to ► 860*).
8. Install the card flats.

Result The deflection pulleys are examined.

10.7.1.2 Replacing the Card Flat Belts

Tools	Tool	Tool Name	Function Description
		Operating platform	The operating platform is used when the user do the work on the card flats.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ An operating platform is to be used.
- ✓ All card flats are removed (*refer to ► 791*).
- ✓ The card flats motor is removed (*refer to ► 879*).



CAUTION

Incorrect operation at the machine!

Risk of injury because of the incorrect operation at the machine

- Read the operation manual before you do the procedure.

Removing the Card Flat Belts

1. Install the operating platform at the chute (*refer to ► 31*).

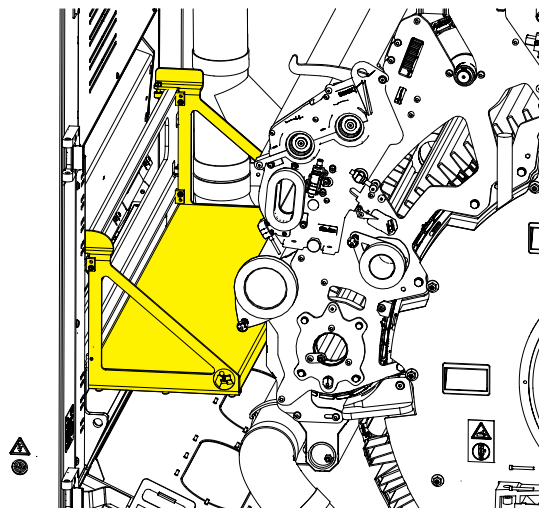


Figure 511: Installation of the platform

2. Remove the sensor **1** together with the sensor bracket on 2 sides of the machine.

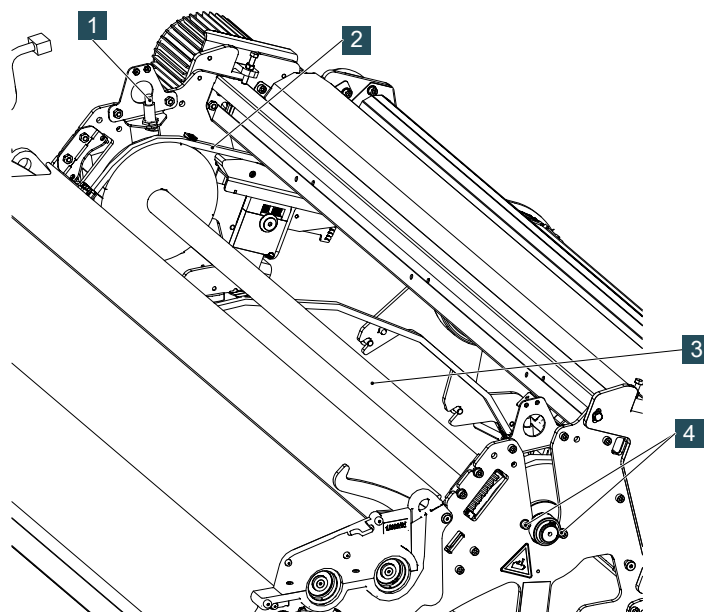


Figure 512: Removal of the shaft

3. Remove the screws **4** on 2 sides of the machine.
4. Stand at the operating platform.
5. Lift the shaft **3** carefully to remove the shaft **3**.
⇒ The shaft is removed.
6. Remove the card flats belts **2**.
⇒ The card flat belts are removed.

Installing the Card Flat Belts

1. See the arrows **5** on the card flat belts **2**.

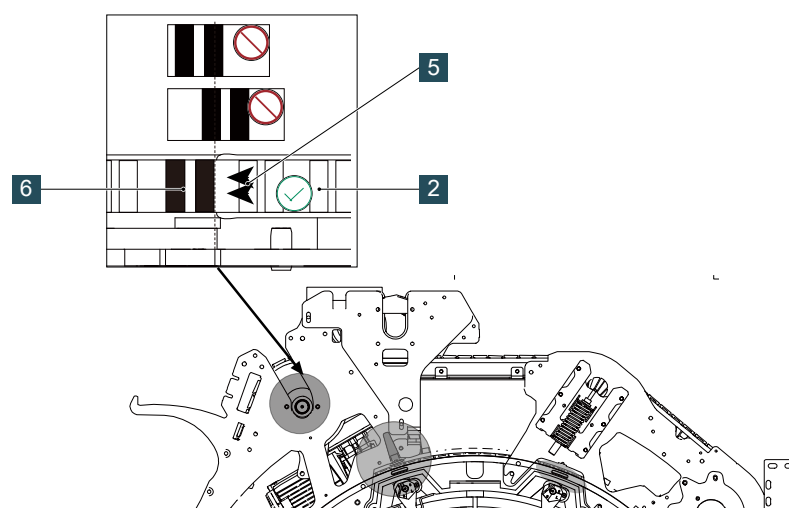


Figure 513: Identification of the marks on the card flat

2. To install the card flat belts **2** correctly, obey the arrows **5** that are on the card flat belts.
 3. Make sure that the arrows **5** point in the running direction of the card flat belts **2**.
 4. Make sure that the card flat belts operate synchronously.
 5. Put the card flat belts **2** around the deflection pulleys.
 6. Install the card flat shaft **3**.
 7. Install the screws **4** at 2 sides of the machine.
 8. Install the sensor **1** together with the sensor bracket on 2 sides of the machine.
 9. At the 2 sides of the machine, make sure that the edge of the frame at the belt drive shaft is aligned to the mark **6** on the card flat belts **2** correctly.
- ⇒ The card flat belts are installed.

Result The card flat belts are replaced.

10.7.1.3 Adjusting Tension of the Card Flat Belt

Prerequisites Make sure that the criteria are obeyed:

- ✓ An open-end wrench is to be used.

1. Loosen the nut **1**.
2. Turn the screw **3** to adjust the belt tension.

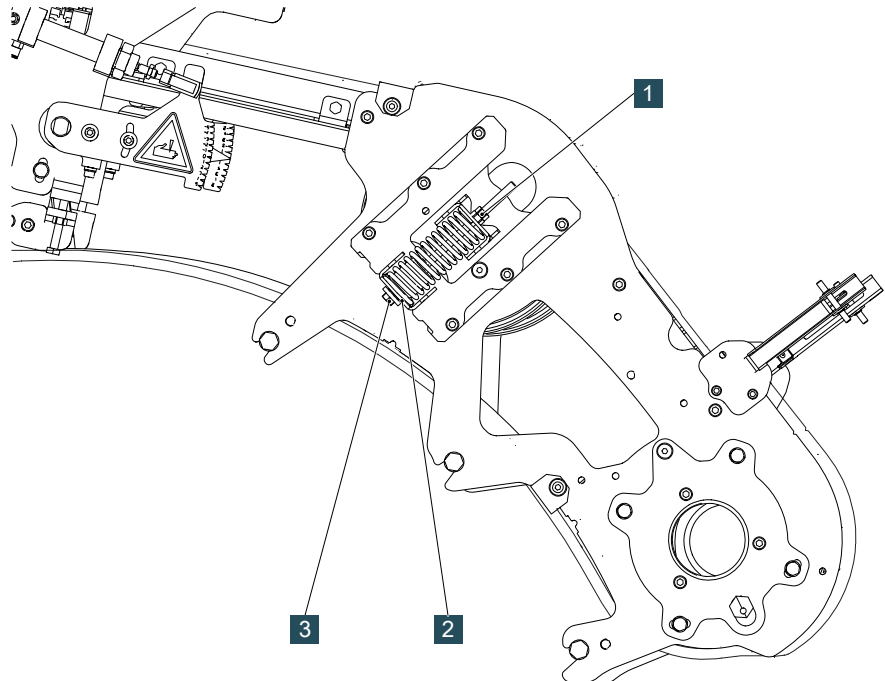


Figure 514: Tensioner of the card flats belt

- If the card flats are not installed on the belt, make sure that there is a small clearance below the bottom edge of the plate 2 like position A.

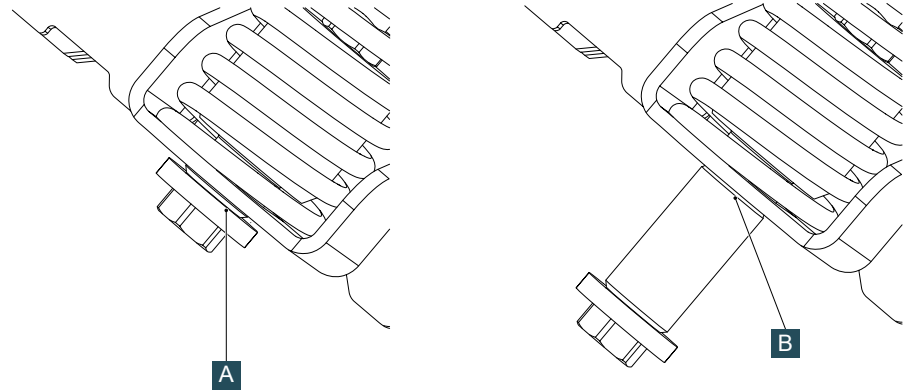


Figure 515: The tensioner screw

- | | |
|---|--|
| <p>A Tightened belt without the card flats</p> | <p>B Tightened belt with card flats</p> |
|---|--|

- If the card flats are installed on the belt, make sure that the groove is in line with the bottom edge of the plate 2 like position B.
- Tighten the nut 1.

Result The tension is applied to the card flat belt.

10.7.1.4 Replacing the Bearings of the Deflection Pulleys

Prerequisites Make sure that the criteria are obeyed:

- ✓ The card flat belts are removed.



NOTICE

Material damage

Damage to the bearings because incorrect cleaning agent

- ▶ Do NOT use the solvent-based cleaning agent to clean the bearings.
- ▶ Use the wet cloth to clean the bearings.

Removing the Bearings of the Deflection Pulley

- Remove the screws 1.

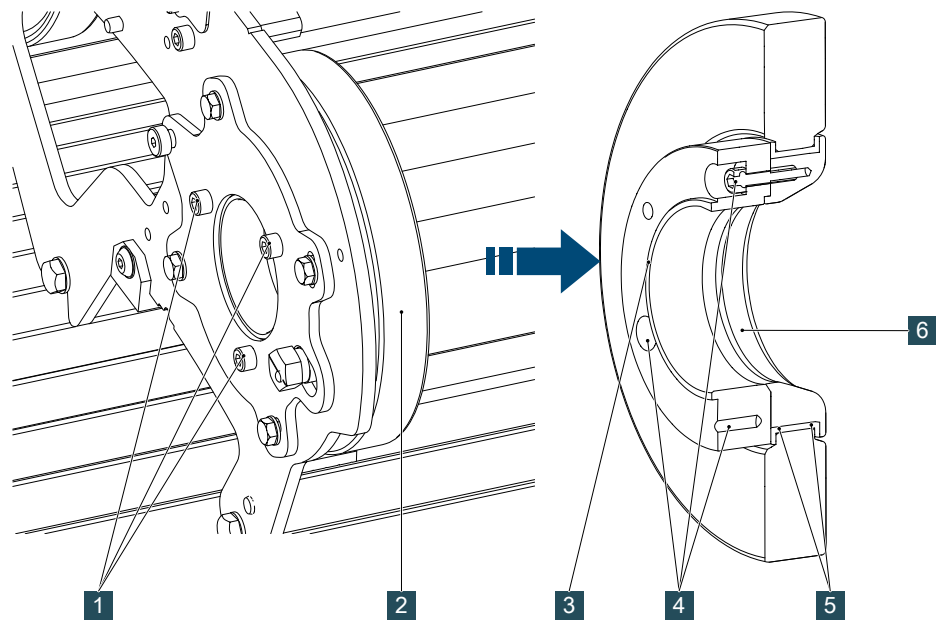


Figure 516: Replacement of the sleeves of the deflection pulley

2. Remove the deflection pulley **2**.
3. Remove the screws **4**.
4. Remove the flange bush **6** and distance bush **3**.
5. Remove the bearings **5** by hand.
⇒ The bearings are removed.

Installing the Bearings of the Deflection Pulley

1. Clean the dirt around the flange bush **6** and distance bush **3**.
2. Examine the condition of the new bearings.
3. Make sure that the surface of the bearing is clean.
4. Push the bearings **5** by hand to install the bearings to the deflection pulley.
5. Make sure that the bearings **5** touch to each other closely.
6. Install the flange bush **6** and distance bush **3**.
7. Install the screws **3**.
8. Install the deflection pulley **2** to the frame.
9. Install the screws **1**.
⇒ The bearings are installed.

Result The bearings of the deflection pulley of the card flats are replaced.

10.7.2 Cleaning Unit of the Card Flats

This section contains the information about the repair work at the cleaning unit of the card flats.

10.7.2.1 Installing the Platform at the Card Chute

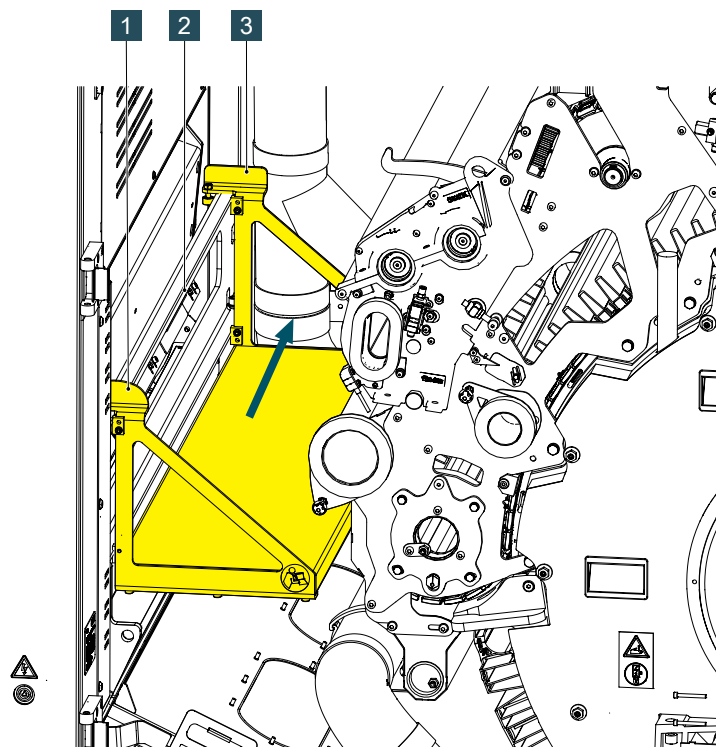
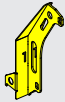


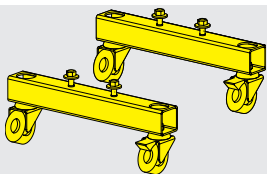
Figure 517: Support on the crossbar

1. Engage the right support **3** on to the left side of the crossbar **2** of the card chute.
2. Move the platform in the direction of the arrow.
3. Engage the left support **1** on to the crossbar **2**.
4. Examine if the position of the left support **1** and the position of the right support **3** are correct.
5. Make sure that the left support **1** and the right support **3** are attached to the crossbar **2**.

Result The platform is installed at the card chute.

10.7.2.2 Removing the Flats Cleaning Unit

Tools	Tool	Tool Name	Function Description
		Lifting device bracket	The lifting device bracket is used to lift the opening unit of the chute or the cleaning unit of the flats.

Tool	Tool Name	Function Description
	Lifting device	The lifting device is used to lift the opening unit of the chute or the cleaning unit of the flats.
	Traverse for the cleaning unit of the card flats	The traverse is used to lift the cleaning unit of the card flats.
	Trolley for the cleaning unit of the card flats	

- Prerequisites** Make sure that the criteria are obeyed:
- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ A lifting device bracket is to be used.
 - ✓ A lifting device is to be used.
 - ✓ A traverse is to be used.
 - ✓ A trolley is to be used.



WARNING

Falling bracket!

Risk of injuries if the bracket falls

- Install the bracket to the card chute with the clamping piece.
- Move the clamping piece up and left to clamp the crossbar tightly.

1. Open the folding doors.
2. Remove the feed channel from the card.
3. Remove the suction pipes and channels.
4. Install the lifting device bracket to the card chute refer to the marks **1** for the flats cleaning unit.
 - ⇒ The distance **X** is 736.5 mm.
5. Install the screw **3** to make sure that the bracket attaches to the card chute.

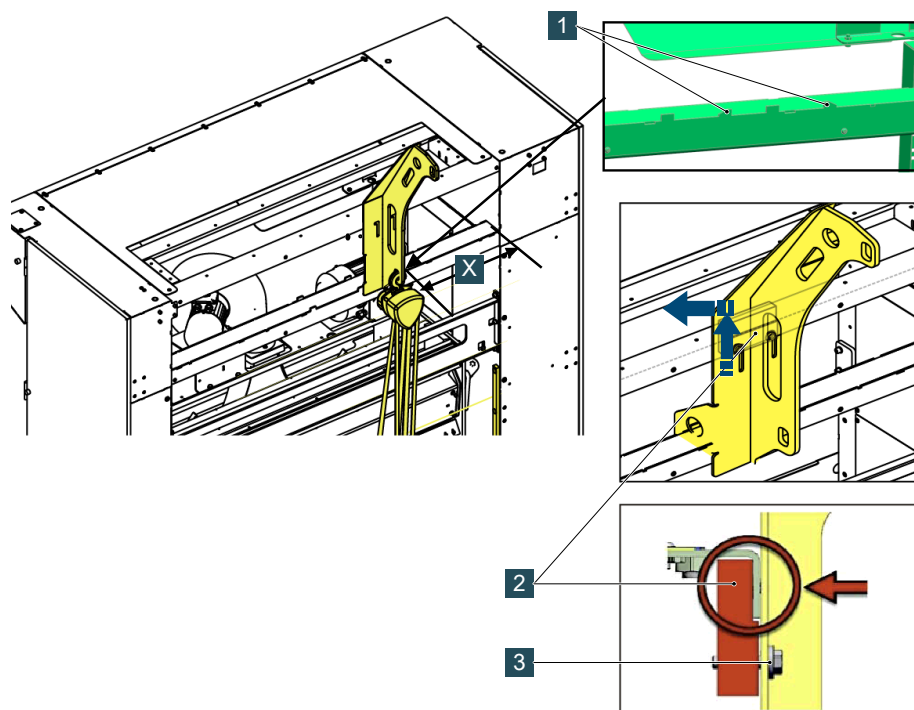


Figure 518: Installation of the lifting device bracket

6. **WARNING! Bracket falls down! Dangerous injury if the bracket falls down.** Install the clamping piece **2** with screws to the bracket.
7. Move up the clamping piece **2** and left to clamp the crossbar tightly.
⇒ The bracket is installed.
8. Remove the nuts **4** on 2 sides of the machine.

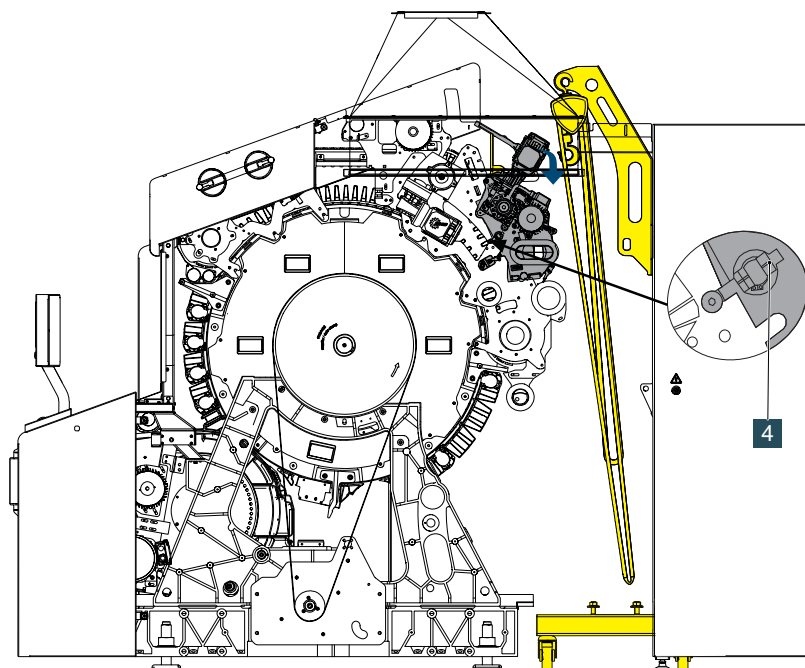


Figure 519: The flats cleaning unit

9. Turn the flats cleaning unit in the direction of the arrow.
⇒ The flats cleaning unit is stopped by the hook **5**.

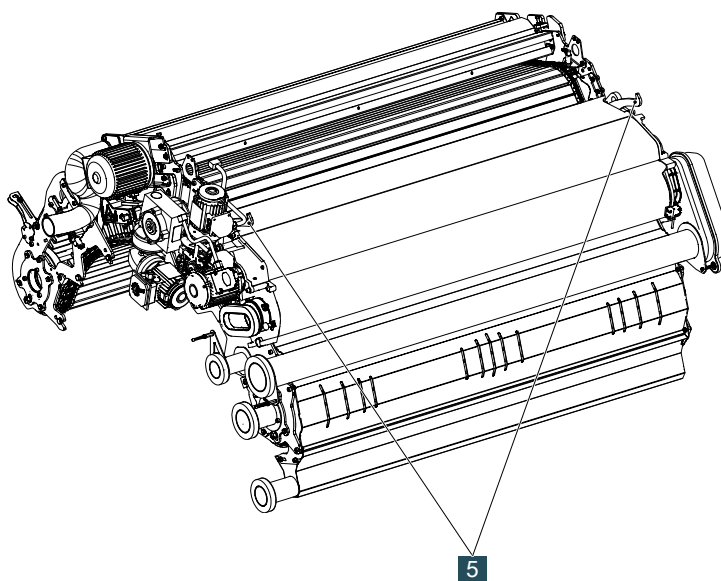


Figure 520: Hook to hold the flats cleaning unit

10. Put the hook of the lifting device to the middle slot **7** of the traverse.
11. Firstly, put the pin **6** of the traverse into the hole of the flats cleaning unit.

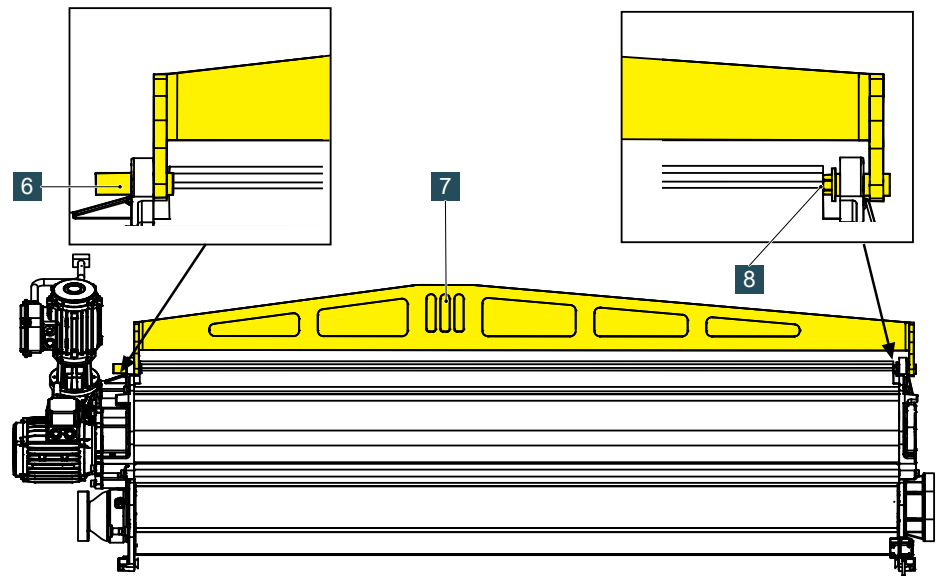


Figure 521: Installation of the traverse to the flats cleaning unit

12. Secondly, put the pin **8** into the hole of the flats cleaning unit.
13. Install a M10 screw together with a washer to the tread of the pin **8**.
⇒ The traverse is installed to the flats cleaning unit.
14. Make sure that the flats cleaning unit is balanced.
15. If the flats cleaning unit is not in balance, put the hook of the lifting device to the other slot.
16. Lift the flats cleaning unit slightly until the flats cleaning unit is removed from the card flats unit.
17. Lower the flats cleaning unit slightly until the flats cleaning unit is at the trolley.
18. At 2 sides of the machine, install the trolley to the flats cleaning unit with the screws **9**.

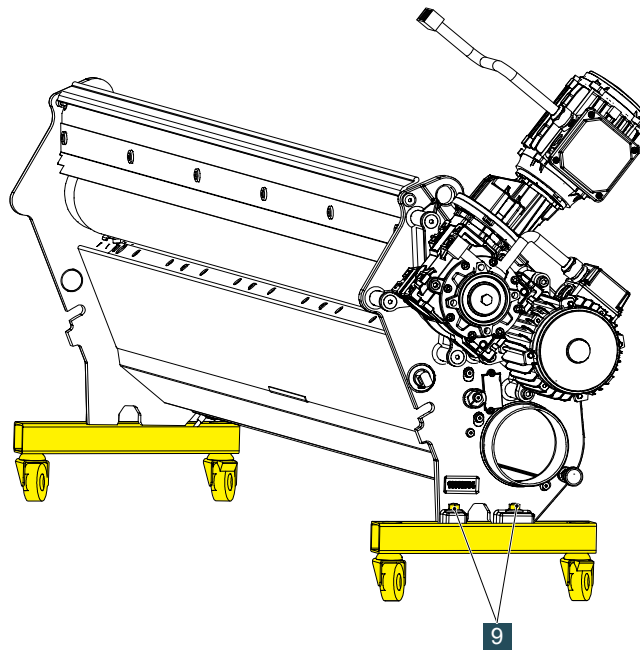


Figure 522: Installation of the flats cleaning unit to trolley

19. Move the flats cleaning unit below the card chute.

Result The flats cleaning unit is removed.

10.7.2.3 Replacing the Clearer Roller



CAUTION

Cleaning unit falls down!

Risk of injury

► Make sure that the cleaning unit is tightened at the bottom.

Removing the Cover and Motors

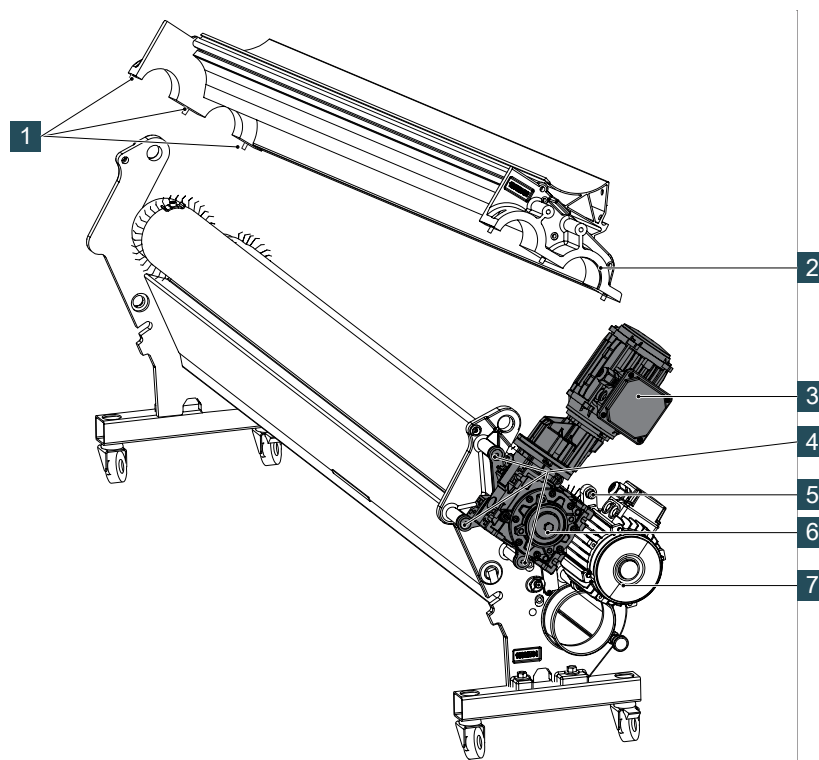


Figure 523: Cleaning unit

1. **CAUTION! Cleaning unit falls down! Risk of injury.** Remove the screws 4 of the motor 3.
 2. Remove the screw 6 of the gear motor 3.
 3. Remove the gear motor 3.
 4. Remove the screws 5 of the motor 7.
 5. Remove the motor 7.
 6. Remove the screws 1 on 2 sides of the machine.
 7. Remove the housing 2.
- ⇒ The housing and the motors are removed.

Removing the Clearer Rollers

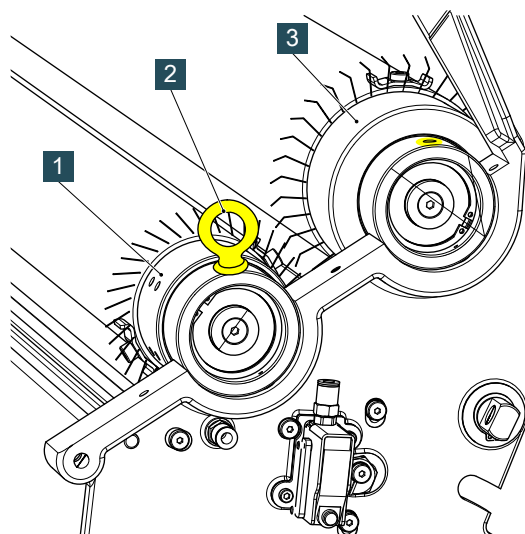


Figure 524: Clearer rollers

1. Tighten the eyebolt **8** on the 2 side of the clearer roller.
 2. Lift the clearer roller PW1 **9** with the chain lifting equipment.
 3. Lift the clearer roller PW2 **10** with the chain lifting equipment.
- ⇒ The clearer rollers are removed.

Installing the Clearer Roller

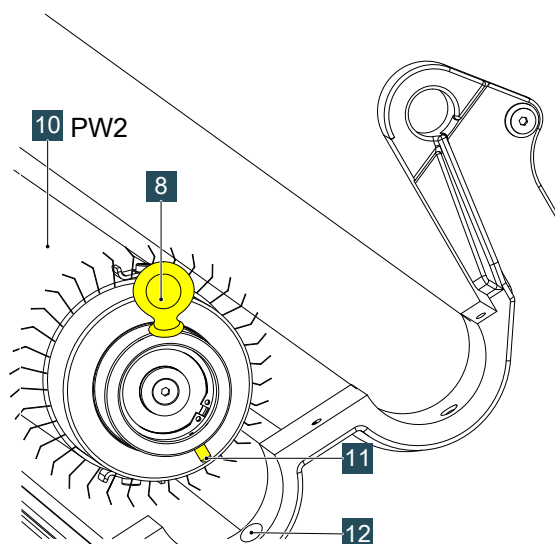


Figure 525: Installation of clear roller

1. Lift the clearer roller PW2 **10** with the eye bolt **8** in to the housing.
2. Put the pin **1** into the bore **2**.

3. Hit the eyebolt lightly with the plastic hammer.
4. Adjust the blade to the clear roller PW2 **9** (refer to ► 871).
5. Install the motor **7**.
⇒ The clear roller PW2 is installed.
6. Install the clearer roller PW1 **8** in the same procedure with clear roller PW2 **10**.
7. Carefully put the gear motor **3** at the correct position.
8. Install the screws **4**.
9. Tighten the screw **5**.
10. Tighten the screw **4**.
⇒ The clearer roller PW1 is installed.

Result The clearer rollers are replaced.

10.7.2.4 Adjusting the Blade for Clearer Roller PW1

The instructions below must be done on the 2 sides of the machine.

Measuring Point F02	
Default value of F02	0.6 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The clearer roller PW1 and the motor are installed.

1. Loosen the screws **2**.

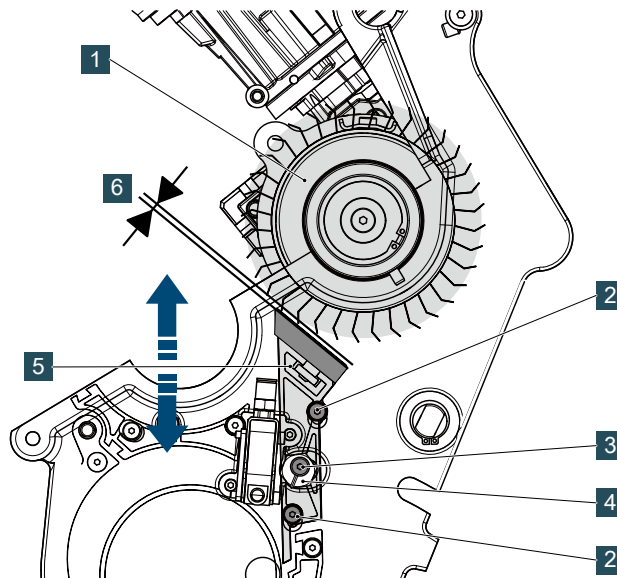


Figure 526: Blade of the clearer roller PW1

- ⇒ The carrier **5** with the blade can be moved in the arrow direction.
- 2. Loosen the screw **3**.

⇒ The eccentric **4** can be turned.

3. To measure the distance **6** between the blade and the clearer roller PW1 **1**, use the card gauge.
4. To set the distance **6** to 0.6 mm, use the eccentric **4**.
5. Tighten the screws **2**.

⇒ The carrier **5** with the blade is installed in position.
6. Tighten the screw **3**.

Result The blade for clearer roller PW1 is adjusted.

10.7.2.5 Adjusting the Blade for the Clear Roller PW2

The instructions below must be done on the 2 sides of the machine.

Measuring point F03	
Default vale of F03	0.8 mm

Prerequisites Make sure that the criteria are obeyed:

- ✓ The gear motor of clear roller PW1 is removed.
 - ✓ The clear roller PW1 is removed.
1. Lift the clear roller PW2 with eyebolt **4** to put the clear roller PW2 correctly into the housing.
 2. Hit the eye screws **4** with the plastic hammer.
 3. The bearing of the clearer roller PW2 **1** is installed full surface into the housing
 4. Loosen the screws **6**.

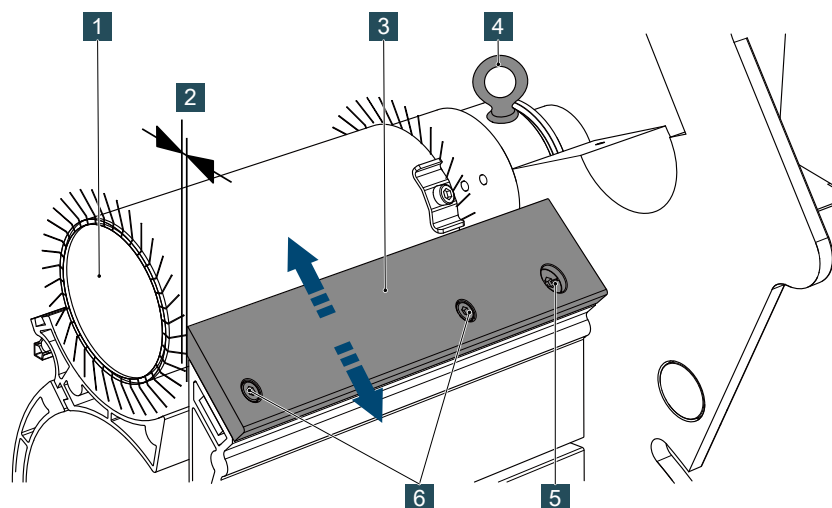


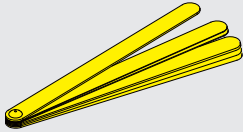
Figure 527: Clearer roller PW2

⇒ The blade **3** can be moved in the arrow direction.

5. To measure the distance **2** between the blade and the clearer roller PW2 **1**, use the card gauge.
6. To set the distance **2** to 0.8 mm, use the eccentric **5**.
7. Tighten the screws **6**.

Result The blade for clearer roller PW2 is adjusted.

10.7.2.6 Adjusting the Cleaning Unit

Tools	Tool	Tool Name	Function Description
		Card gauge	The card gauge is used to measure the distance between the machine parts.

1. Move a card flat between the marks **7** at the opening of the frame on 2 sides of the machine.
 ⇒ The card flat **2** for the measurement is set opposite of the cleaning roller.

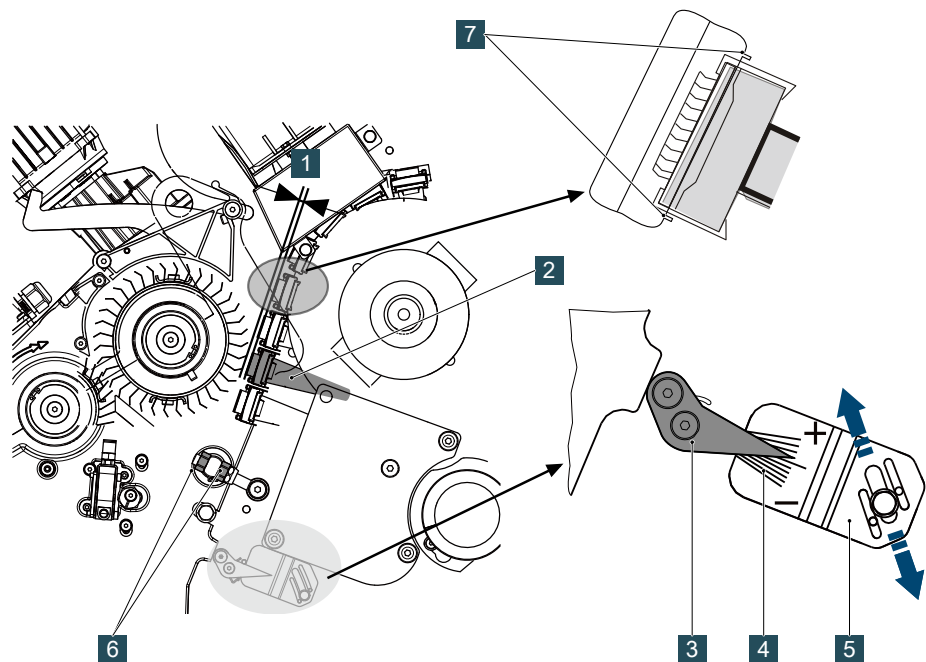


Figure 528: Cleaning unit

2. Loosen the nuts **6**.
3. Put the card gauge with thickness of 1 mm into the distance **1**.
4. Adjust the nuts **6** to fix the distance **1**.
 ⇒ The distance **1** is 1 mm.
5. Tighten the nuts **6**.
6. Examine the scale **4**.

7. If the scale **4** does not agree with the distance **1**, move the scale plate **5** on the 2 sides of the machine until the pointer **3** points to the line +1 mm.

Result The cleaning unit is adjusted.

10.7.2.7 Adjusting the Penetration Depth PW1

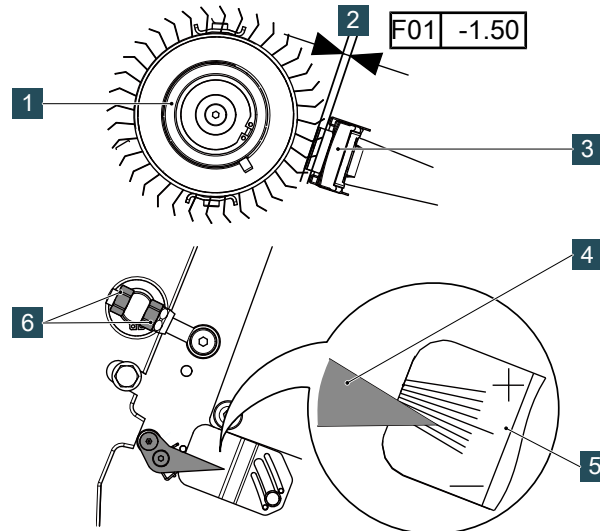


Figure 529: Adjusting the penetration depth PW1

Measuring point F01

Default value	-1.50 mm
---------------	----------

Prerequisites Make sure that the criteria are obeyed:

- ✓ The cleaning unit is adjusted (refer to ► 872).
- 1. To adjust the penetration depth **2**, use the nuts **6**.
 - ⇒ The pointer **4** shows the value of the penetration depth **2** on the scale **5**.
 - ⇒ The needles of the clearer roller PW1 **1** go into the card flat **3**.

Result The penetration depth PW1 is adjusted.

10.7.2.8 Putting a New Clothing onto the Clearer Rollers PW1 and PW2

The new clothing must be put onto the clearer roller PW1 and PW2 at the same time. The winding up procedure of the clearer roller PW2 is same as the winding up procedure of the clearer roller PW1.

10.7.2.8.1 Preparing the Clothing Fillet

Prerequisites Make sure that the criteria are obeyed:

- ✓ A needle nose pliers is to be used.
- ✓ A punch pliers is to be used.

- ✓ The cleaning unit is removed.
- ✓ The clearer rollers are removed. See Disassembling the Cleaning Unit
- 1. Pull the needles **4** out of the clothing fillet **2** until sufficient area is available for the fastening of the clamping piece **3**.

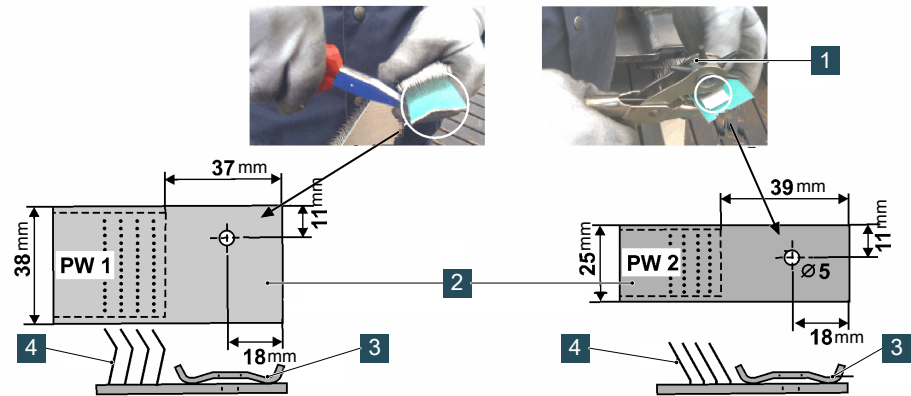


Figure 530: Preparation of the clothing fillet

- 2. To pull the needles **4** out of the clothing fillet **2**, use the needle nose pliers.
- 3. Mark the position for the holes as shown in the figure.
- 4. To make a hole, use the punch pliers **1** or a similar tool.

Result The clothing fillet is prepared.

10.7.2.8.2 Attaching the Clothing Fillet to the Clearer Roller

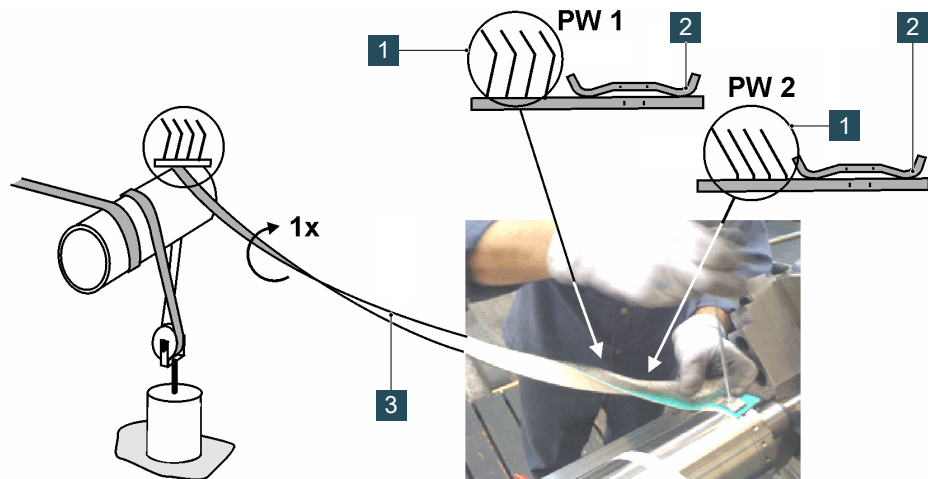


Figure 531: Attaching the clothing fillet to the clearer roller

Torque for the clamping piece	4 Nm
-------------------------------	------

Prerequisites Make sure that the criteria are obeyed:

- ✓ A torque wrench is to be used.

1. Pull in the clothing fillet **3** as shown in the figure.
 - ⇒ The needles are aligned as shown in the position **1**.
 - ⇒ The clothing fillet **3** is twisted one time.
2. Attach the start of the clothing fillet **3** with the clamping piece **2**.
 - ⇒ The needles shown in the position **1** are pointed up.
 - ⇒ The clamping piece **2** is on all clamping points.

Result The clothing fillet is attached to the clearer roller.

10.7.2.8.3 Winding the Clothing Fillet onto the Clearer Roller

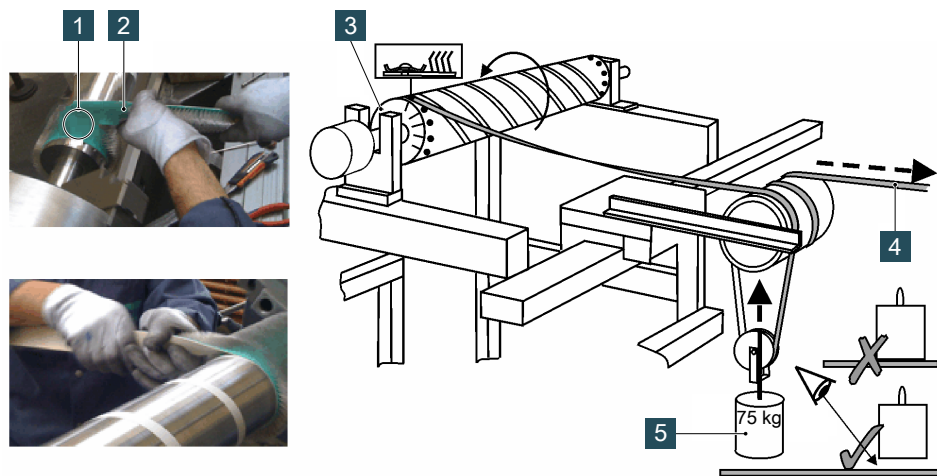


Figure 532: Winding device

Torque for the clamping piece	4 Nm
-------------------------------	------

Prerequisites Make sure that the criteria are obeyed:

- ✓ 2 persons are necessary for the work.
 - ✓ A scribe is to be used.
 - ✓ The necessary speed of the rollers for winding is 5 – 10 rpm.
1. When the roller **3** turns, lightly guide the clothing fillet **2** as shown in the figure.
 2. Make sure that the weight **5** is on the floor.
 3. Switch on the drive.
 4. The second person hold back the clothing fillet **4** to lift the weight **5** from the floor.
 - ⇒ By holding the clothing fillet back, the weight **5** is suspended so that the clothing fillet has the required tension.
 5. Make sure that the windings **1** are near each other and not overlap.

Fastening the Clothing Fillet on the End

1. Stop the drive on the end of the roller.
2. Keep the clothing fillet tensioned until the clothing fillet is fastened.
3. To select the suitable tapped bore for the fastening of the clamping piece **9**, use the marking **7**.

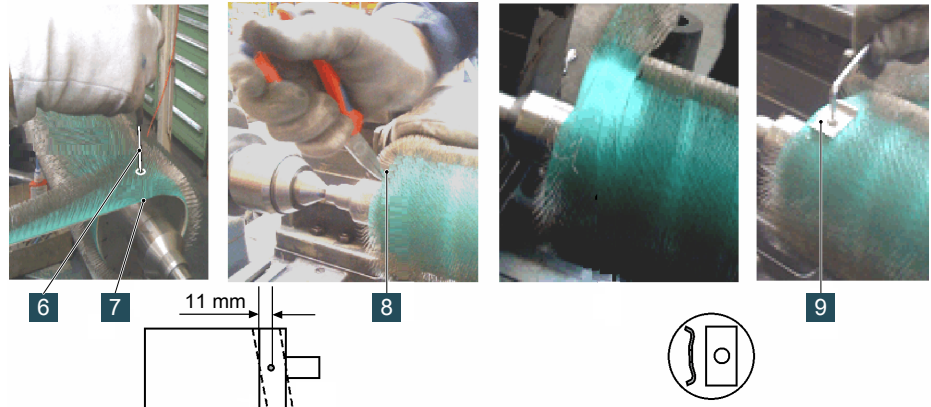


Figure 533: Clothing fillet on the end

4. In the area of the tapped bore, pierce the clothing fillet with the scriber **6**.
5. At the puncture, screw in the thread cutter.
⇒ The puncture is widened.
6. Pull the needles **8** out of the clothing fillet until sufficient area is available for the attaching of the clamping piece **9**.
7. To fasten the clamping piece **9**, use the screw.
8. Make sure that the clamping piece **9** is on all clamp points.
9. Cut the clothing fillet behind the clamping piece **9**.

Result The clothing fillet is wound onto the clearer roller.

10.7.2.8.4 Attaching a Second Clamping Piece

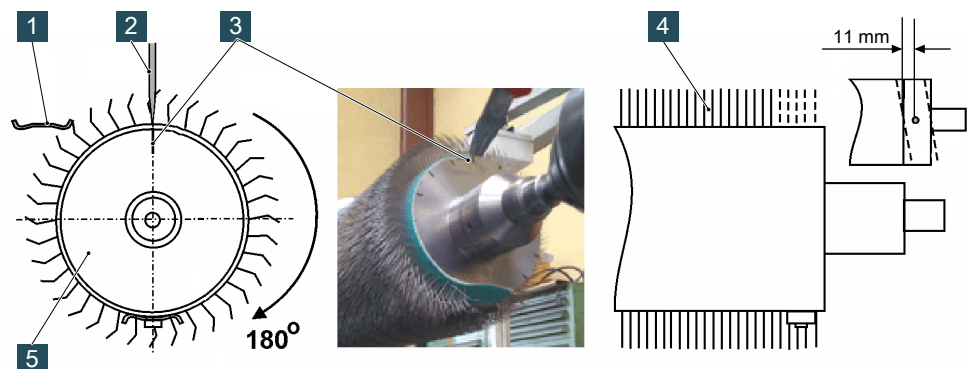


Figure 534: Attaching a second clamping piece

Torque for the clamping piece	4 Nm
-------------------------------	------

Prerequisites Make sure that the criteria are obeyed:

- ✓ A scriber is to be used.
- 1. To select the suitable tapped bore for the attaching of the clamp piece **1**, use the marking **3**.
- 2. Turn the roller **5** 180 degrees.
- 3. To pierce the clothing fillet in the area of the tapped bore, use the scriber **2**.
- 4. At the puncture, screw in the thread cutter.
 - ⇒ The puncture is widened.
- 5. Pull the needles **4** out of the clothing fillet until sufficient area is available for the attaching of the clamping piece **1**.
- 6. To attach the clamping piece **1**, tighten the screw with the tightening torque of 4 Nm.
- 7. Make sure that all the clamping points are attached with clamping piece **1**.
- 8. Cut off the clothing fillet behind the clamping piece **1**.

Result The second clamping piece is attached.

10.7.2.8.5 Cutting the Clothing Fillet at the Edge of the Clearer Roller

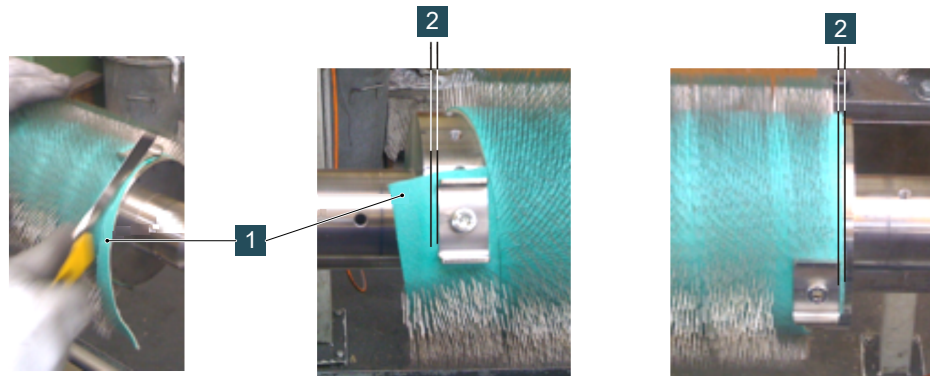


Figure 535: Edge of the roller

Prerequisites Make sure that the criteria are obeyed:

- ✓ A sharp knife is to be used.
- 1. Remove the needles on the edge of the roller on the entire perimeter.
- 2. To cut the projecting clothing fillet **1**, use the sharp knife.
- 3. Make sure that the distance **2** from the cut to the clamping piece is 2 mm.
- 4. Do the procedure on the 2 sides of the roller.

Result The clothing fillet is cut at the edge.

10.7.3 Setting the Cleaning Brush for the Card Flats

Measuring point F04

Distance X	-1.00 mm
-------------------	----------

1. Set the machine in test mode.
2. Start the card flats to move 2 pieces of card flats accurately below the cleaning brush **1**.

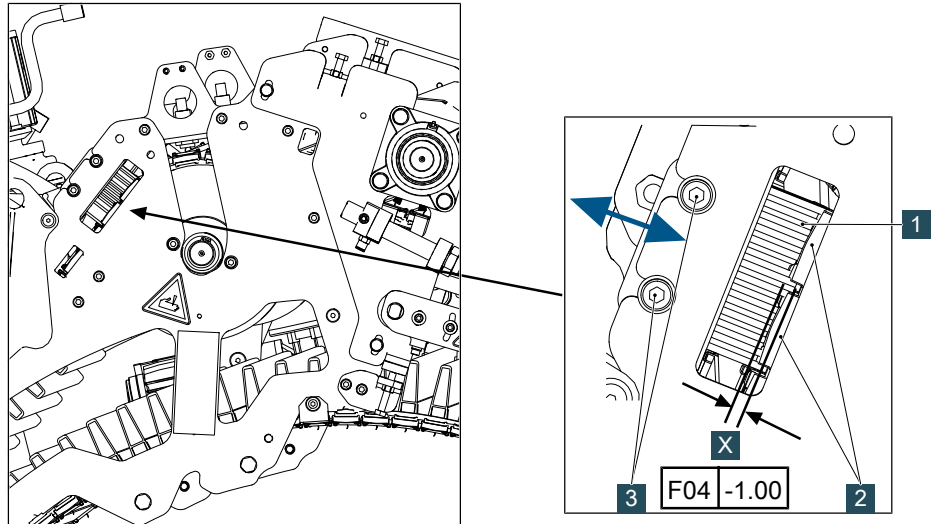


Figure 536: Adjustment of the cleaning brush

3. Loosen the screws **3**.
4. Move the cleaning brush **1** until the brush ends touch closely the bottom of the sliding shoes **2**.
 - ⇒ The penetration depth **X** is 1.00 mm.
5. Set the cleaning brush **1** on 2 sides of the machine.

Result The cleaning brushes for the card flats are set.

10.7.4 Replacing the Lubricating Blocks of the Card Flats

Examining the Lubricating Blocks

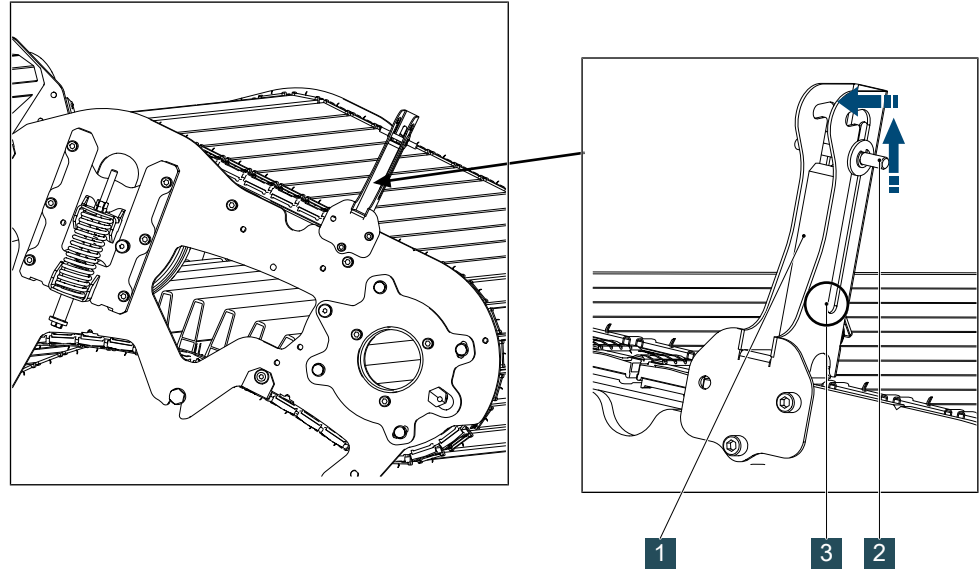


Figure 537: Lubricating block

1. Examine the position of the pin **2**.
2. If the pin is at the **3**, replace the lubricating block.
 - ⇒ The lubricating blocks is examined.

Replacing the Lubricating Blocks

1. Move up the pin **2** and put the pin **2** into the slot.
2. Remove the lubricating block **1**.
3. Put and push a new lubricating block in the holder.
 - ⇒ The pin **2** falls down automatically.
4. If necessary, manually push the pin **2** back to the slot.

Result The lubricating block of the card flats is replaced.

10.7.5 Replacing the Card Flats Motor

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ Make sure that the flat key **1** is at the top position **A**.

Removing the Card Flats Motor

1. Disconnect the cable of the motor.

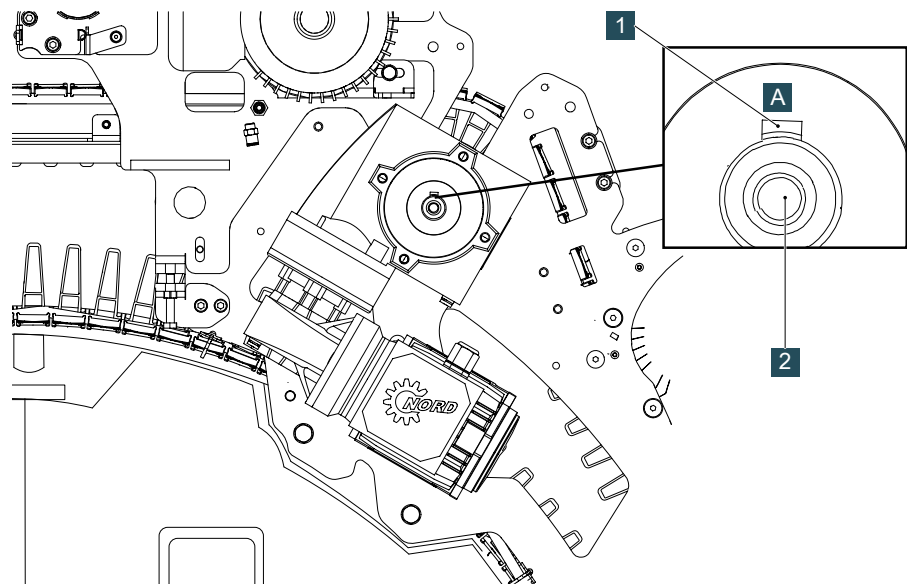


Figure 538: Installation of the card flats motor

- 2. Remove the screw **2**.
- 3. Remove the card flats motor.
⇒ The card flats motor is removed.

Installing the Card Flats Motor

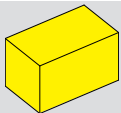
- 1. Install the motor trough on the shaft.
- 2. Install the screw **2**.
- 3. Connect the cable of the motor.
⇒ The card flats motor is installed.

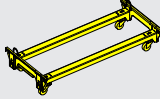
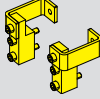
Result The card flats motor is replaced.

10.8 Delivery Unit

This chapter contains the information about how to repair the delivery unit.

10.8.1 Removing the Delivery Unit

Tools		Hydraulic pump	The hydraulic pump is used to lift or lower the delivery unit.
		Wooden block	The wooden block is to be used when to remove or install the lick-in unit or the delivery unit.

	Transport trolley	The transport trolley is used to move the lick-in unit and doffer.
	Stoppers	The stoppers are to be used when to remove the doffer.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



WARNING

Delivery unit falls down!

Risk of injuries if the delivery unit falls

- Do NOT go to the area below the delivery unit.
- Make sure that the hydraulic pump is stable.

1. Remove the suction hoses from the delivery unit at the right side of the machine.
2. Disconnect all cables from the motors and the sensors.
3. Disconnect all pneumatic tubes at the left sides of the machine.
4. Remove the belt **2**.

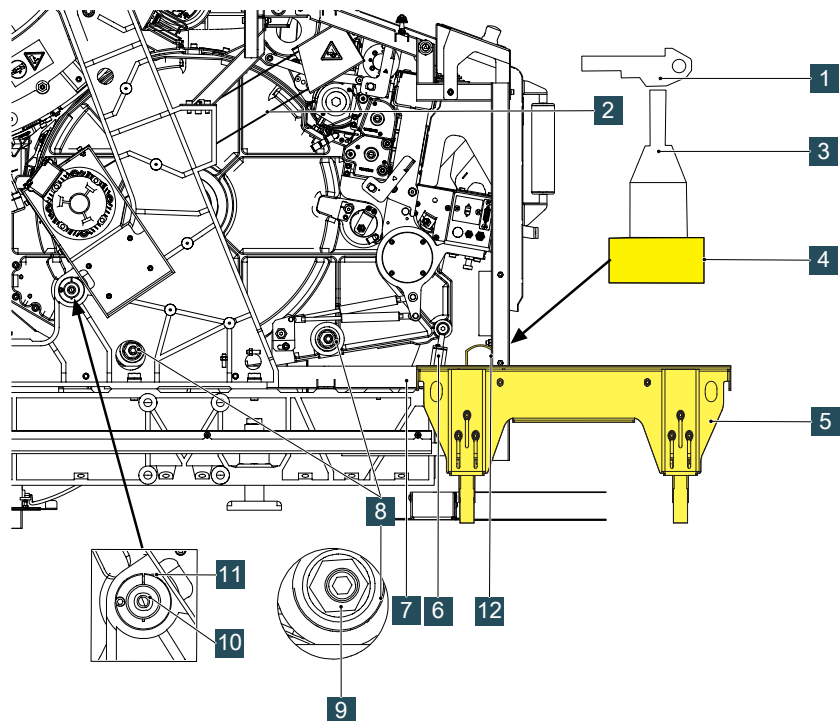


Figure 539: Delivery unit

5. Put the hydraulic pump **3** on the supplied wooden block **4**.
6. Align the hydraulic pump **3** correctly below the support **1**.
7. Lift the hydraulic pump **3** to 1 mm below the support **1**.
8. Loosen the locking screw of the spindle.
9. Adjust the spindles **6** on 2 sides of the machine.
 - ⇒ The delivery unit moves down until the support **1** touches the hydraulic pump **3**.
10. Remove the dowel screw of the spindle **6** to remove the spindle from the machine.
11. **WARNING! Delivery unit falls down! Risk of injuries if the delivery unit falls.** Move down the delivery unit with hydraulic pump **3** carefully until the transport rolls **9** touch the machine rail **7**.
12. Loosen the screw **11**.
13. Pull out the shearing pin **10** on 2 sides of the machine.

Removing the Delivery Unit out of the Machine

1. Align the transport trolley **5** to the height of the machine rail **7**.
2. Attach the transport trolley **5** to the machine rail **7** with screws.
3. Use the hydraulic pump **3** to lower the delivery unit onto the transport trolley **5** carefully.
4. Attach the doffer unit rolls **8** to the transport trolley **5** with the brackets **12**.
5. Move the trolley **5** out of the machine.

Result The delivery unit is removed from the machine.

Move the Delivery Unit to the Position for Winding the Wire

1. Install the stops **14** to the machine rail **7** at 2 sides.

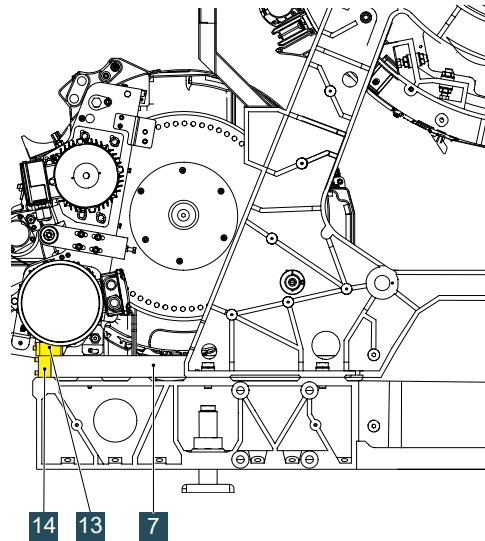


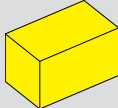
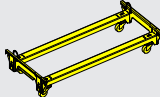
Figure 540: Stops

2. Use the hydraulic pump **3** to lower the delivery unit onto the machine rail **7** carefully
3. Move the delivery unit along the machine rail **7** carefully until the stoppers **14**.
4. At 2 sides of the machine, install the clamping bracket **13** to attach the rolls to the machine rails **7** tightly.

Result The delivery unit is moved to the position for winding the wire.

10.8.2 Installing the Delivery Unit

Tools

	Hydraulic pump	The hydraulic pump is used to lift or lower the delivery unit.
	Wooden block	The wooden block is to be used when to remove or install the licker-in unit or the delivery unit.
	Transport trolley	The transport trolley is used to move the licker-in unit and doffer.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



WARNING

Delivery unit falls down!

Risk of injuries if the delivery unit falls

- Do NOT go to the area below the delivery unit.
- Make sure that the hydraulic pump is stable.

1. Put the transport trolley **5** in front of the machine.

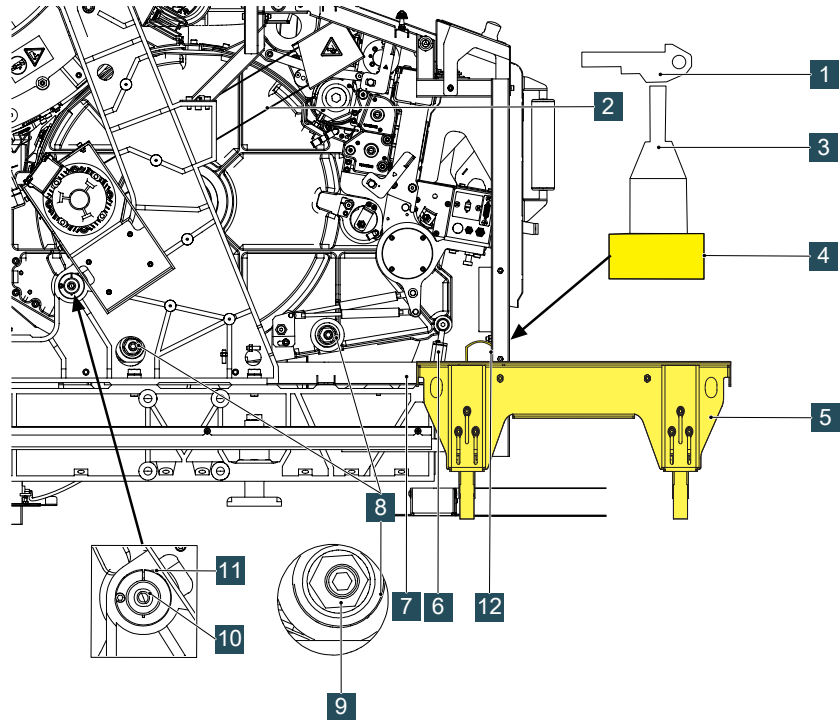


Figure 541: Installation of the delivery unit

2. Align the transport trolley **5** to the height of the machine rails **7**.
3. Remove the brackets **12** from trolley **5** to release the doffer unit rolls **8**.
4. Push the doffer unit to the machine rail **7** carefully until the delivery unit is at the end position.
5. Adjust the delivery unit position until the 2 holes for shearing pin at the delivery unit and at machine frame are aligned.
6. If necessary, turn the eccentric **9** of the rolls to align 2 holes.
7. Apply the grease to the shearing pins **10**.
8. On 2 sides of the machine, install the shearing pins **10** into the holes by hand. Do not use hammer to hit the shearing pins **10**.
9. Tighten the screw **11**.

10. **WARNING! Delivery unit falls down! Risk of injuries if the delivery unit falls.** Use the hydraulic pump **3** to move up the delivery unit carefully until the distance between the doffer to cylinder is 2 or 3 mm.
11. Install the dowel screw of the spindles **6** to the machine with assembly paste.
12. Connect the pneumatic tubes to the delivery unit.
13. Connect the suction hoses and pipes to the delivery unit.
14. Install the belt **1**.
15. Carefully adjust both spindles **6** alternately to set the distance between doffer and cylinder according the setting sheet.

Result The doffer unit is installed.

10.8.3 Replacing the Cross Apron

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



CAUTION

Turning pulleys and belts!

Injury because of the turning pulleys and belts.

- ▶ Do not touch the turning parts.
- ▶ Wear applicable clothing.

Removing the Cross Apron

1. Swivel down the disk roller unit.
2. **CAUTION! Turning pulleys and belts! Injury because of the turning pulleys and belts.** Remove the cover **1** of the cross apron unit.

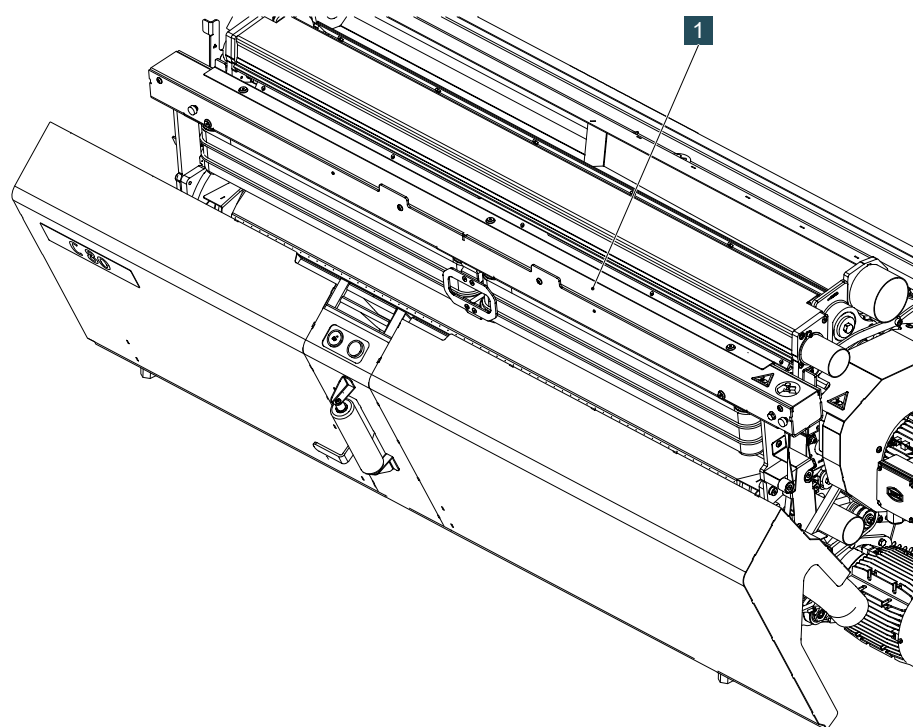


Figure 542: Cover of the cross apron unit

3. Loosen the screw **3**.

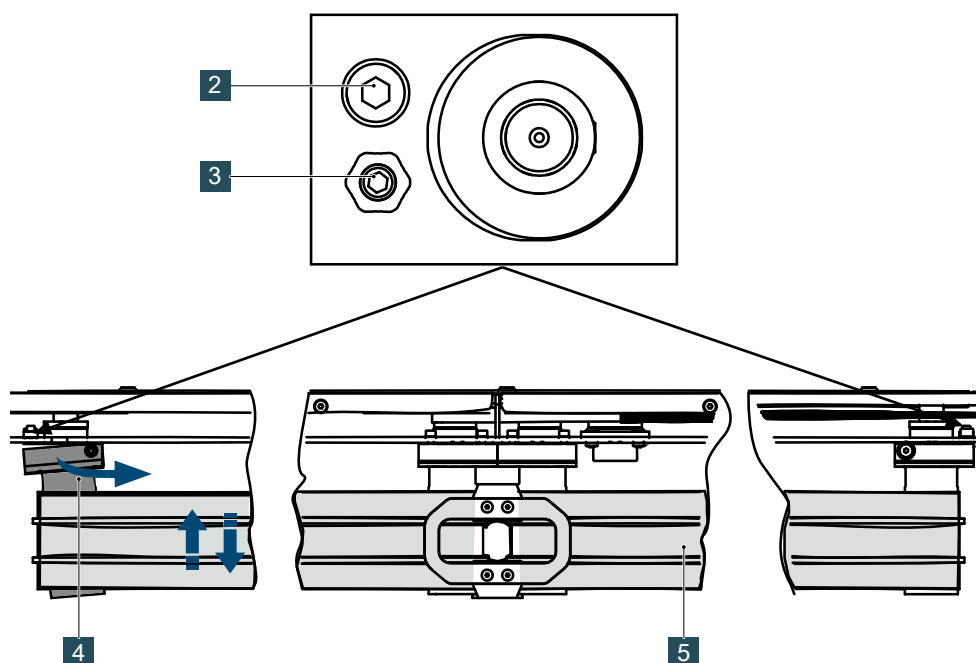


Figure 543: Adjustment of the cross apron

1. Adjust the screw **2** until the deflection roller **4** can be tilted with a small angle.
2. Remove the cross apron **5**.
⇒ The cross apron is removed.

Installing the Cross Apron

1. Install the new cross apron.
2. Adjust the cross apron to the center position.
⇒ The cross aprons are installed.

Result The cross aprons are replaced.

Adjusting the Cross Apron to Center Position

1. Set the machine in test mode.
2. Select the data screen 4.2.6.2 **Test of Feed Roller in Card**.
3. Loosen the screw **3** with a long handle hexagonal key.
4. Turn the screw **2** with a long handle hexagonal key to adjust the working position of the cross apron.
5. Tighten the screw **3**.
6. Push the start button to start the cross apron unit.
7. Monitor the work condition of the cross apron **5**.
8. If the cross apron is not at the center position, do the steps from 5 to 9 until the cross apron is at the center position.
9. Install the cover **1**.

Result The cross apron is adjusted to the center position.

10.8.4 Removing the Suction Duct of the Web Bridge

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ The doffer unit hoods at 2 side of the machine are removed.
 - ✓ The disk roller unit is swiveled down.
1. Remove the web bridge **1**.

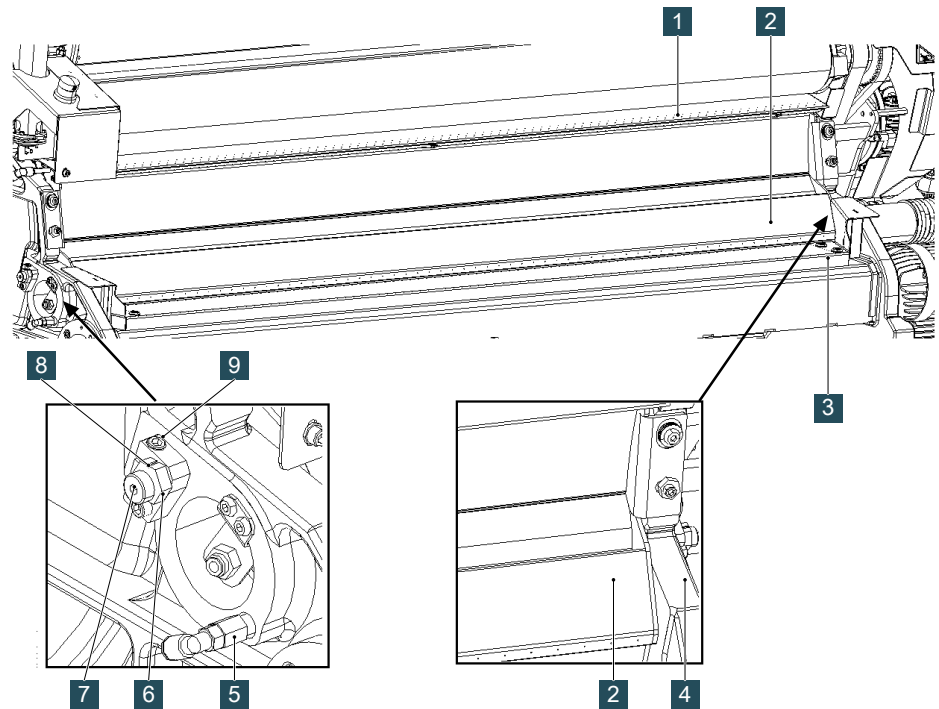


Figure 544: Suction duct of web bridge

2. Remove the guiding plate **3**.
3. At the left side of the machine, disconnect the pneumatic tube from the connection nipple **5**.
4. Remove the connection nipple **5**.
5. Loosen the clamping bolt **9**.
6. Turn the eccentric **6** to release the suction duct **2**.
7. Remove the screw **7**.
8. At the right side of the machine, do the same steps from 5 to 7.
9. Remove the suction duct **2**.

Result The suction duct of the web bridge is removed.

10.8.5 Installing the Suction Duct of the Web Bridge

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ The doffer unit hoods at 2 side of the machine are removed.
 - ✓ The disk roller unit is swiveled down.
 - ✓ The cross apron unit is swiveled down.
 - ✓ The delivery roller unit is swiveled down.
 - ✓ The web bridge **1** is removed.
 - ✓ The guiding plate **3** is removed.
1. Make sure that the surface of the suction duct **1** is clean.

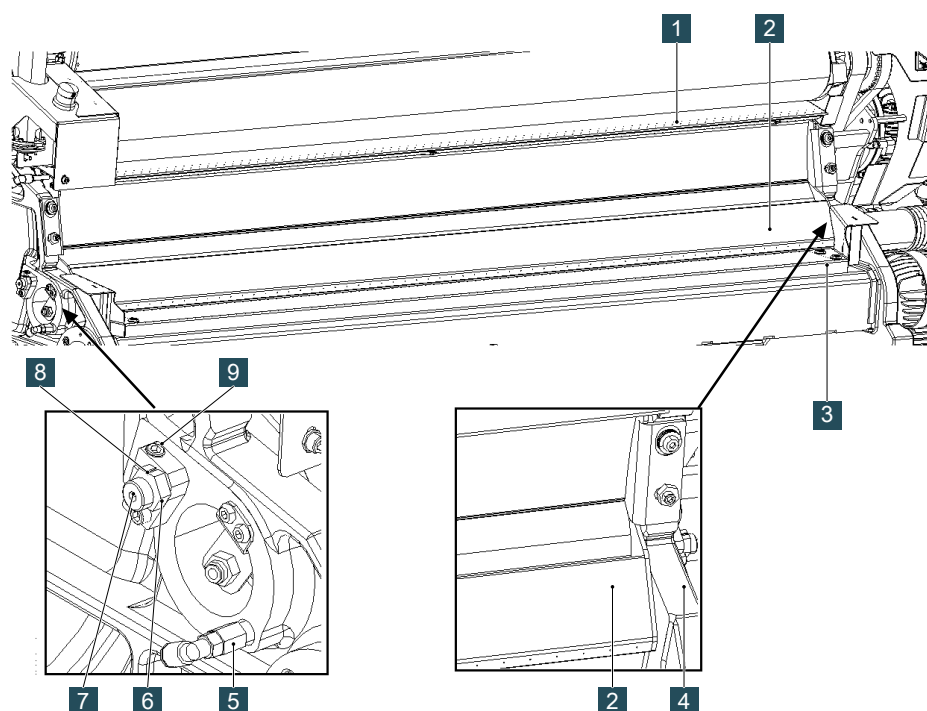


Figure 545: Suction duct of web bridge

2. Put the suction duct **2** into the correct position.
3. At the right side of the machine, make sure that the suction duct **2** touches the frame **4** closely.
4. Install the connection the screw **7** first at the right side and then at the left side.
 - ⇒ There is a clearance between the screw **7** and the eccentric **8** at the left side of the machine.
5. At 2 sides of the machine, tighten the eccentric **6** until the mark **8** is on the top side.
6. Tighten the screw **9**.
7. Install the connection nipple **5**.
8. At the left side of the machine, connect the pneumatic tube to the connection nipple **5**.

Result The suction duct of the web bridge is installed.

10.8.6 Replacing the Stripping Blades

This section contains the information about how to replace the stripping blade.

Removing the Stripping Blades

1. Examine the stripping blades for wear.
2. If the stripping blades are worn out, replace the stripping blade.

⇒ The stripping blades are removed.

Installing the Stripping Blades

1. Loosen the screw **1**.

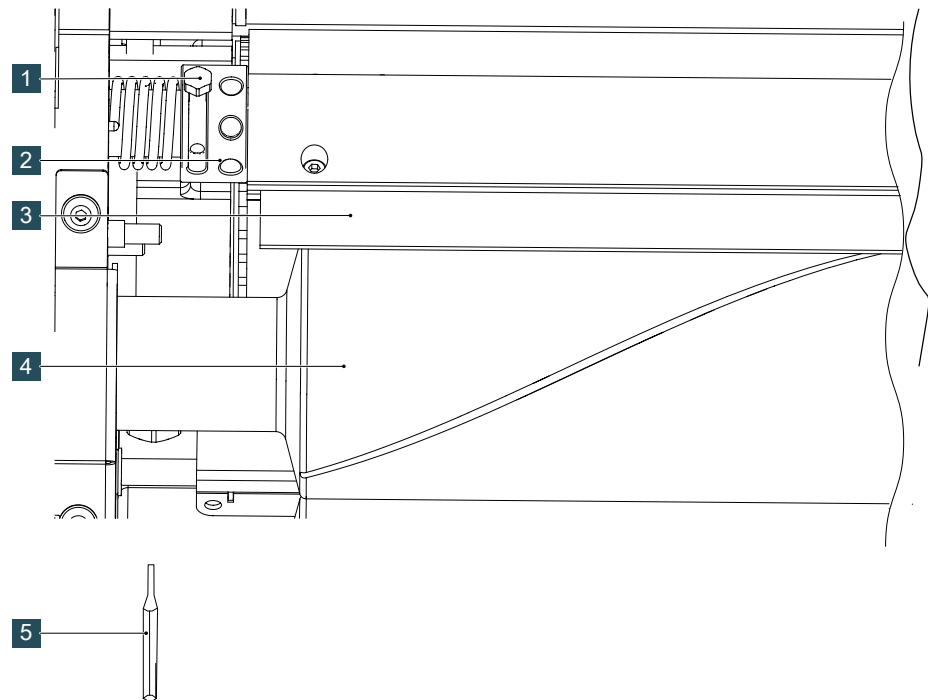


Figure 546: Striper blade for delivery roller

2. Make sure that the stripping blades **3** rest on delivery rollers.
3. Turn the ring **2** with the tool **5** to adjust the spring pressure.
4. Tighten the screw **1**.
 - ⇒ The recommended position of the screw **1** is at the middle of the slot.
 - ⇒ The stripping blades **3** are pushed onto the delivery roller **4** with a light pressure.
 - ⇒ The stripping blades are installed.

Result The stripping blades are replaced.

10.9 Control System

This chapter contains the information about how to repair the control system.

10.9.1 Replacing the Control Module D95K

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

Removing the Control Module D95K

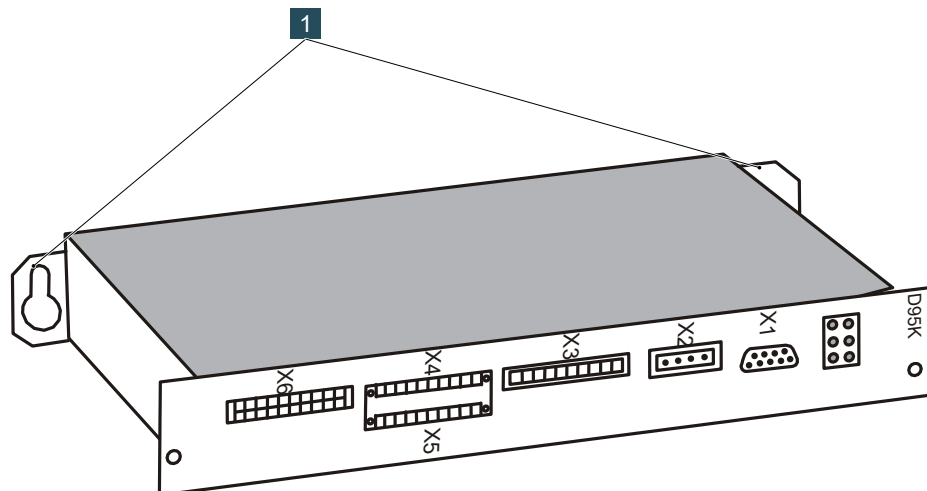


Figure 547: Control module D95K

1. Disconnect the plug connectors X1, X2, X3, X4, X5, and X6 from the control module D95K.
2. Remove the 2 screws of the holders **1**.
3. Remove the control module D95K.

Result The control module D95K is removed.

Installing the Control Module D95K

1. Put the control module D95K in the correct position.
2. Install the 2 screws of the holders **1**.
3. Connect the plug connectors X1, X2, X3, X4, X5, and X6 to the control module D95K.

Result The control module D95K is installed.

10.9.2 Identification of the Frequency Converter

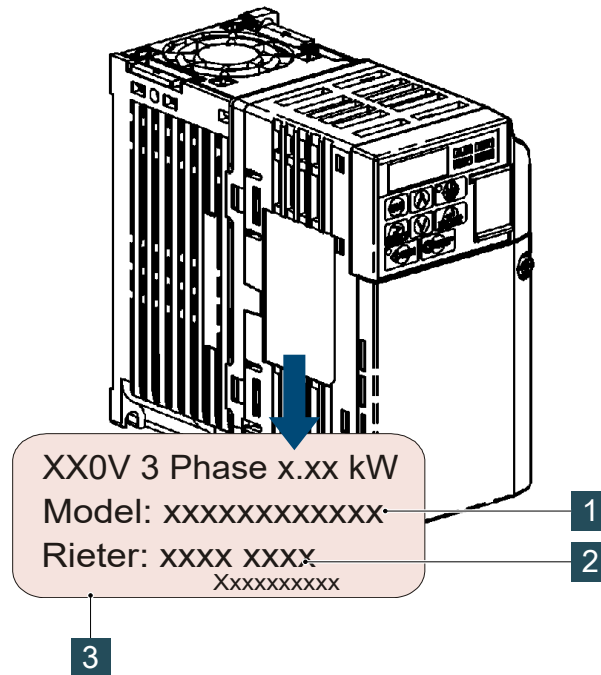


Figure 548: Identification of the frequency converter

The Rieter part number **2** on the attached label **3** must be same as the part number in the related electrical documentation.

The model identification **1** must be same with the identification on the manufacturer's label that is on the side of the frequency converter.

10.9.3 Replacing the Frequency Converter

Replacing the frequency converter is done by the plant electricians.



DANGER

Remaining electricity in the frequency converter!

Death or dangerous burn injury through the electric shock

- ▶ Set the main switch to the position OFF. Padlock the main switch.
- ▶ Do **NOT** touch the device that has remaining electricity until the LED for the charge display is off.
- ▶ Wait for 10 min until the frequency converter voltage becomes 0 V.
- ▶ Do **NOT** touch the device during the discharge time.

Removing the Frequency Converter

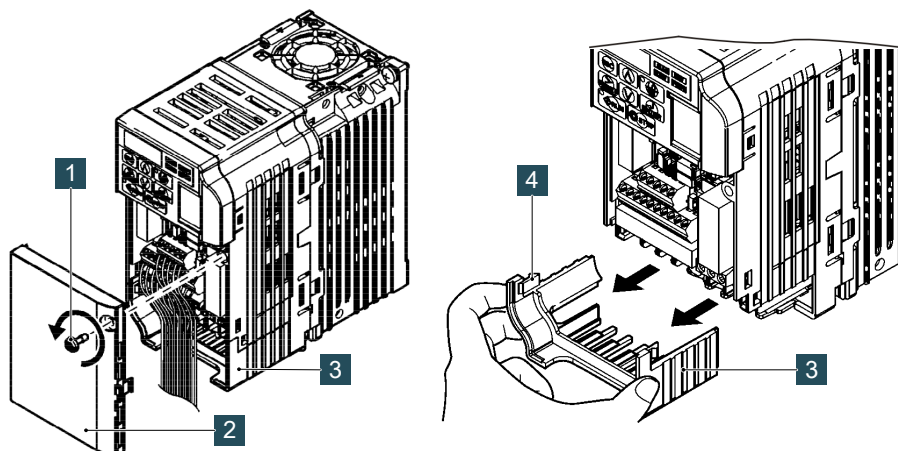


Figure 549: Removal of the cover from the power unit

1. The housing to be removed can deviate from the depicted housing.
2. Loosen the screw **1** and remove the cover **2**.
3. Press the latches **4** of the cover **3** together.
4. Extend the cover **3** in the direction of the arrow.

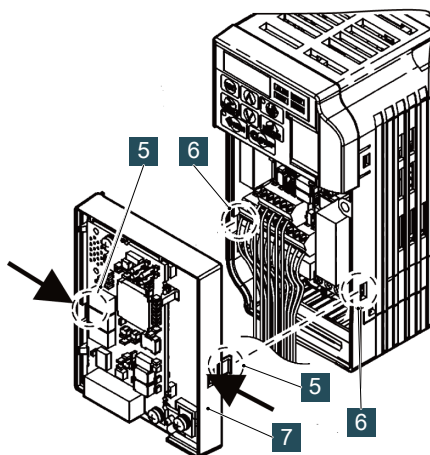


Figure 550: Frequency converter

5. Gently press together the latches **5** on the module **7**.
⇒ The latches **5** disengage from the openings **6**.
6. Remove the module **7**.
7. Examine if the LED **8** is on.

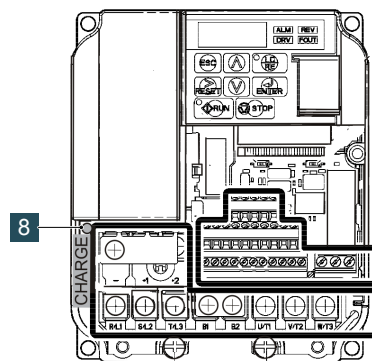


Figure 551: LED at the frequency converter

8. Check whether (CHARGE) LED lights up.
9. The LED will light up if the voltage for the intermediate circuit still exceeds 50 VDC.
10. Wait until the LED (CHARGE) has gone out.
11. After the LED (CHARGE) has gone out, wait 5 more minutes.
12. Measure the residual voltage between the terminals with the designations (-) and (+1) (intermediate circuit). Depending on, the terminals are arranged at different places of the power terminals.
13. If the residual voltage in the intermediate circuit has dropped below 30 VDC, disconnect the cables.

Disconnect Cable

1. Check the labelling of terminals and cables. Ensure that the cables can be properly connected during reinstallation.
2. Disconnect the power and control terminals.
3. Disconnect the earth cable from the earth terminal.
4. Do not pull the cables out of the cable bushings. The cable glands remain in the electrical control cabinet of the machine when the frequency converter is replaced.
5. Loosen the four fastening screws. Remove the frequency converter.

Installing the Frequency Converter

1. Push the detent pawls **5** on the 2 sides of the module **7**.

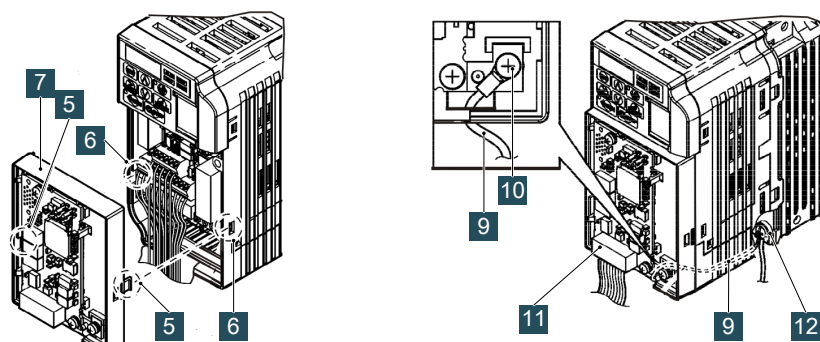


Figure 552: Frequency converter

2. Push the module **7** until the pawls **5** lock into position in the notch **6**.
3. Connect the ground cable **9** to the ground terminal **10** of the CAN module.
4. Connect the other end of ground cable **9** to the ground terminal **12** of the frequency converter.
5. Keep the ground cable **9** from the CAN module to the frequency converter as short as possible.
6. Put the connector **11** of the CAN bus cable.
7. Install the cover **2**.

⇒ The frequency converter is installed.

Result The frequency converter is replaced.

10.9.4 Setting the DIP Switches

The frequency converter is set with the switches S1 to S4 on the controller card.

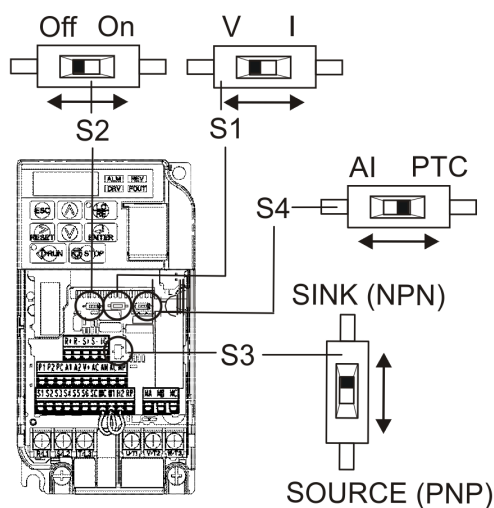


Figure 553: DIP switches of the frequency converter

Frequency converter	S1	S2	S3	S4
U10	I	On	SINK (NPN)	AI
U11	I	On	SINK (NPN)	AI
U12	I	On	SINK (NPN)	AI
U13	I	On	SINK (NPN)	AI
U41	I	On	SINK (NPN)	AI
U50	I	On	SINK (NPN)	AI

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
- ✓ The work is done by the plant electricians.



DANGER

Parts under power!

Death or dangerous injury because of electric shock

- Set the main switch to the position OFF and padlock the main switch.
- Make sure that the only approved electrician does the maintenance work or repair work at the frequency converter.
- Wait for 10 min after the frequency converter voltage becomes 0 V.
- Do NOT touch the frequency converter during the discharge time of the capacitor.

1. Set the switch S1 to the position I.
2. Set the switch S2 to the position On.
3. Set the switch S3 to the position SINK (NPN).
4. Set the switch S4 to the position AI.
5. Do the function test of the safety relay. See Doing the Function Test of the Safety Relay.

Result The DIP switches are set.

10.9.5 Replacing the Battery of the Control System

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.



NOTICE

Battery is replaced in de-energized condition

The machine settings and shift data in the data memory are lost.

- Do NOT change the battery in the de-energized condition.



NOTICE

Static electricity!

Damage to the electronic components

- Before work on electronic components, release the static electricity by touching the machine ground cable or other ground connections.

Removing the Battery in the Control System

1. Remove the cover **2** with a screwdriver.

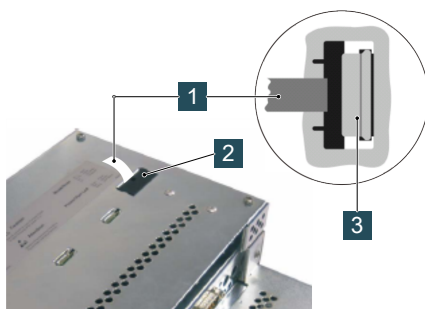


Figure 554: Battery

2. Pull out the strip **1**.
⇒ The battery **3** is removed.

Installing the Battery in the Control System

1. Put the strip **1** in the correct position in the battery compartment.

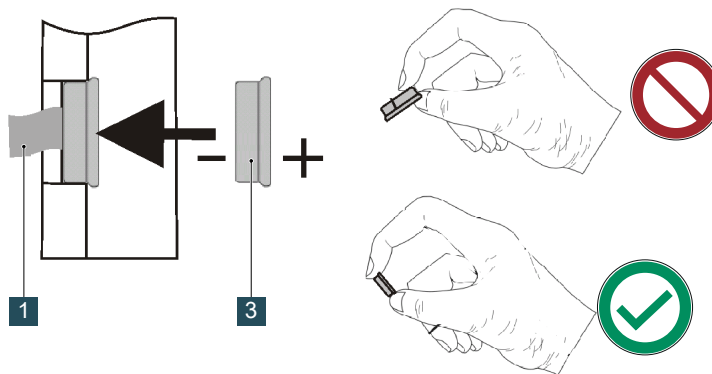


Figure 555: Replace battery

2. Do not touch the battery with non-insulated tools.
3. Hold the battery with 2 fingers on the side.
4. Put the new battery **3** into the battery compartment with the correct polarity.
5. Install the cover **2**.
⇒ The battery **3** is installed.

Result The battery in the control system is replaced.

10.9.6 Installing the Cooling System to the Frequency Converter

This section contains the information about how to install the cooling system of the frequency converter.

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.
 - ✓ The frequency converter is removed.
1. To remove the heat transfer compound that is on the heat transfer plates, use a spatula.
 2. To remove all residue from the heat transfer plates, use a solvent.
 3. Examine if the heat transfer plates are damaged.
 4. If a heat transfer plate has unevenness, carefully do the grinding of the heat transfer plate.
 5. To apply the heat transfer compound equally to the heat transfer plate, use a paint roller.
 6. Join the frequency-converter together with the cooling plate.

Result The frequency converter is installed to the cooling system.

10.9.7 Entering the Parameters for the Frequency Converter T1000V

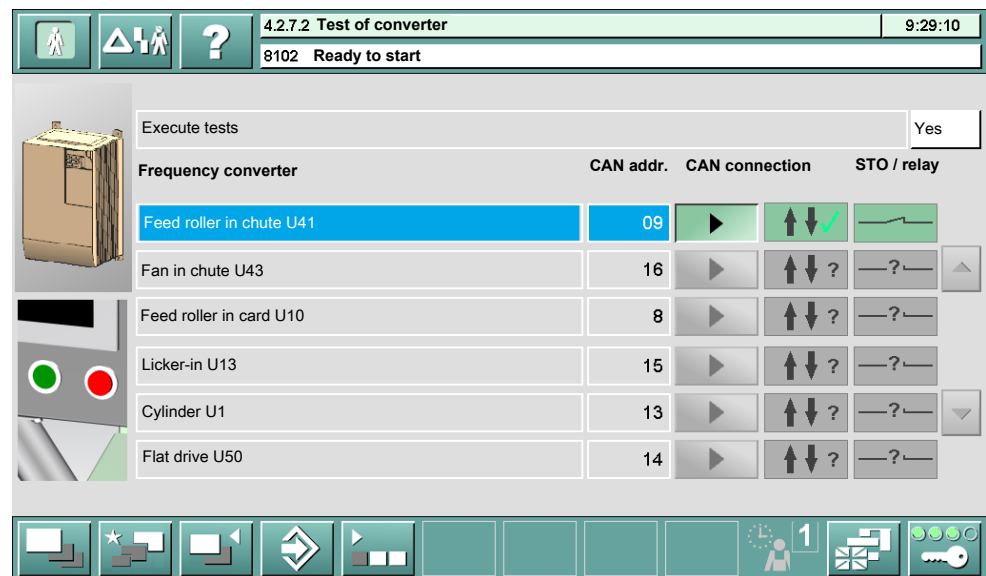


Figure 556: Data screen 4.2.7.2 Test inverter2

1. Select the password level 3.
2. Select the operating mode **Test mode**, in the data screen 4.1.5 **Operating mode switchover**.
3. Select the data screen 4.2.7.2 **Test converter**.

4. In the line **Execute tests** select **Yes**.
⇒ The test is activated.
5. Select the correct frequency converter.
6. Select the inverter for the test.
⇒ The line with the selected inverter is highlighted in blue.
7. Push the start button to start the test.

Setting the Authorization

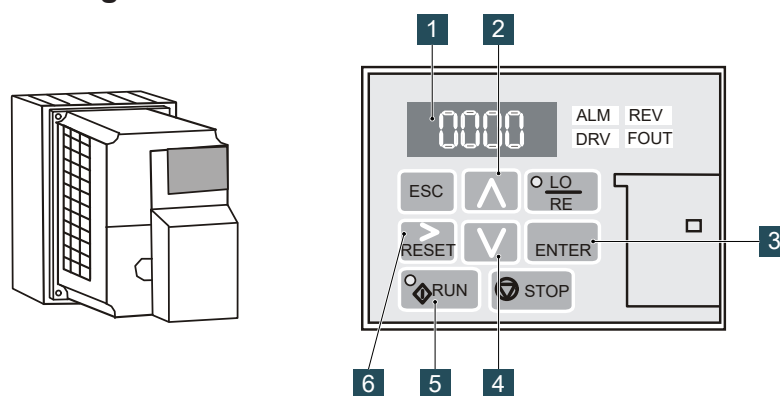


Figure 557: The authorization setting

1. Push the buttons up **2** and down **4**.
⇒ PAr is shown.
2. Push the button enter **3**.
⇒ A1-01 flashes.
3. Do not start with the button enter **3**.
⇒ XXXX is shown.
4. Push the button **6** to move from number to number.
⇒ The number that can be edited is flashes.
5. Set the parameter values 0 002 with the buttons **2** and **4**.
6. Save with the button **3**.
⇒ First End is shown, then the parameter value 0 002.
⇒ A1-01 flashes.
⇒ The authorization to change any parameter value is done.

Initializations

1. Set the parameter A1-03 with the button **2**.
2. Save the parameter with the button **3**.
⇒ XXXX is shown.

3. Push the button **6** to move from number to number.
⇒ The number that can be edited is flashes.
4. Set the parameter values 2 220 with the buttons **2** and **4**.
5. Save with the button **3**.
⇒ First End is shown, then the parameter value 2 220.
⇒ A1-03 flashes.
6. The initialization is done.

Setting the Baud Rate

1. Set the parameter F6-36 with the button **2**.
2. Save the parameter with the button **3**.
⇒ XX is shown.
3. Push the button **6** to move from number to number.
⇒ The number that can be edited is flashes.
4. Set the parameter values 00 with the buttons **2** and **4**.
5. Save with the button **3**.
⇒ First End is shown, then the parameter value 00.
⇒ F6-36 flashes.
⇒ The baud rate is searched automatically.
6. The baud rate is set.

Setting the Node Address

1. Select the node address for the correct frequency converter.
 2. The node address is specified in the documentation for the electrical system.
 3. Set the parameter F6-35 with the button **2**.
 4. Save the parameter with the button **3**.
⇒ XX is shown.
 5. Push the button **6** to move from number to number.
⇒ The number that can be edited is flashes.
 6. Set the node address, for example 09 with the buttons **2** and **4**.
 7. Save with the button **3**.
⇒ First End is shown, then the node address, for example 09.
⇒ F6-35 flashes.
⇒ The frequency converter parameters are given.
 8. After the node address is set, select the **Automatic mode** in the data screen
- ### 4.1.5 Operating mode switchover

- ⇒ The machine is prepared for operation.
- ⇒ The message **Ready to start** is shown.
- ⇒ The node address is set.

Result The Parameters for the Frequency Converter T1000V are given.

10.9.8 Setting the Delay Time

Prerequisites Make sure that the criteria are obeyed:

- ✓ If the light beam is interrupted for the duration of the delay time, a fault message will be given.
1. Select data screen 2.3.1.7.
 2. Set the switch-off delay between 10 – 300s in the field of **Duration until fault, {BmkUeberwDeckelrein}** .

Result The delay time is set.

10.10 Sliver Coiling Device CBA

This chapter contains the information about how to repair the sliver coiling device CBA.

10.10.1 Replacing the Can Trolley

Prerequisites Make sure that the criteria are obeyed:

- ✓ The main switch is set to the position OFF and the main switch is padlocked.

Removing the Can Trolley

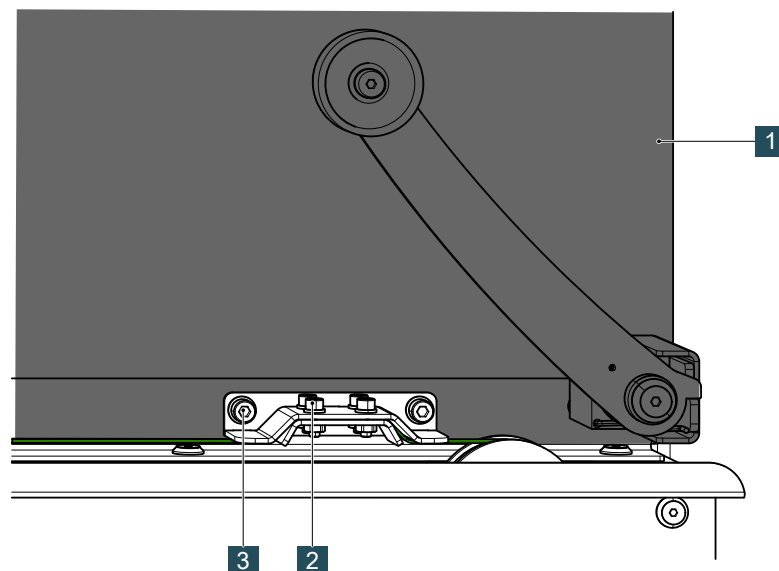


Figure 558: Can trolley

1. Remove the screw **3**.

2. Do not remove the screws **2**.
3. Remove the can trolley **1**.
⇒ The can trolley is removed.

Installing the Can Trolley

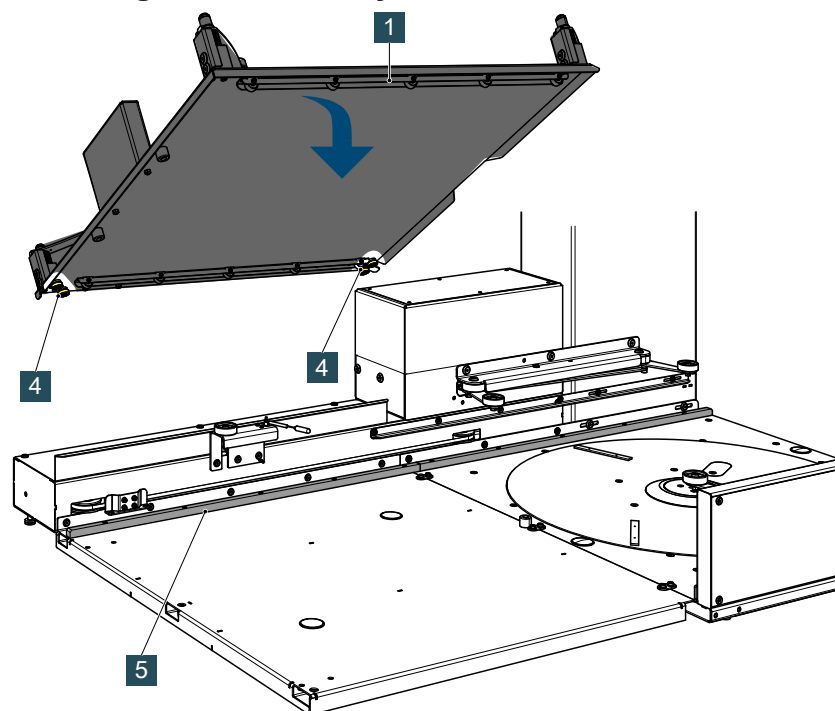


Figure 559: Can trolley with the guide rails

1. Make sure that the guide rails **4** are on the same side as the guide rail **5** on the base plate.
2. Put the can trolley **1** onto the floor plate.

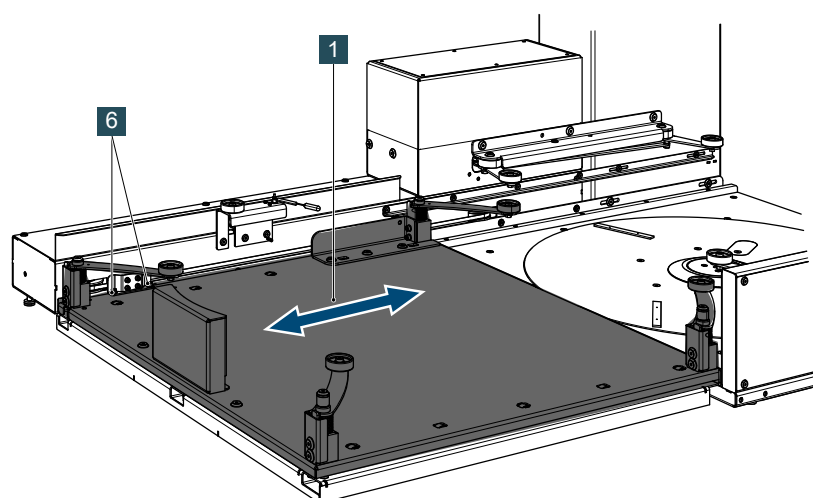


Figure 560: Position of the can trolley

3. Make sure that the can trolley moves forward and backward.
⇒ The can trolley moves forward and backward correctly.
4. Attach the drive plate with the screws **6** to the can trolley **1**.
⇒ The can trolley is installed.

Result The can trolley is replaced.

10.10.2 Installing the Drive Belt on the Can Trolley

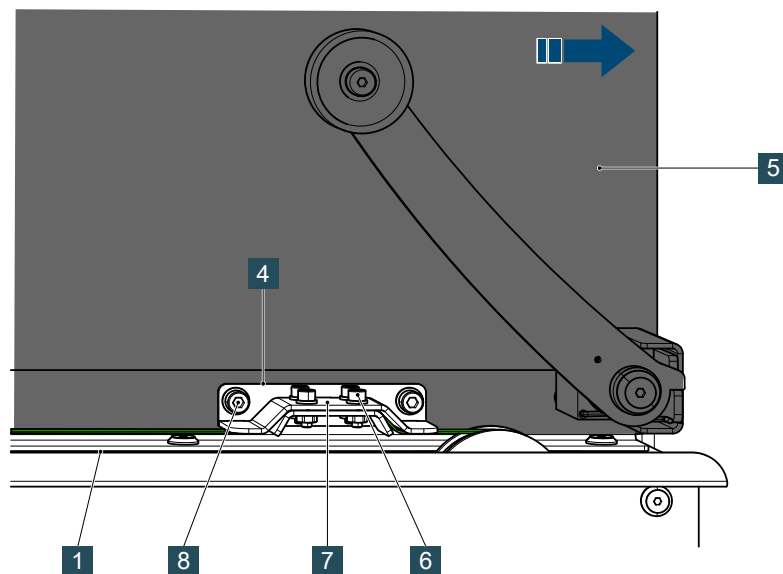


Figure 561: Drive belt for the can trolley

1. Align the can trolley **5** to the rear end position.
2. Install the drive plate **4** with the screws **8** on the can trolley **5**.
3. Put the drive belt **1** between the drive plate **4** and the counterpart **7**.
4. Tighten the screws **6**.

Applying Tension to the Drive Belt (CD 600 mm)

1. Pull in the drive belt **1**.

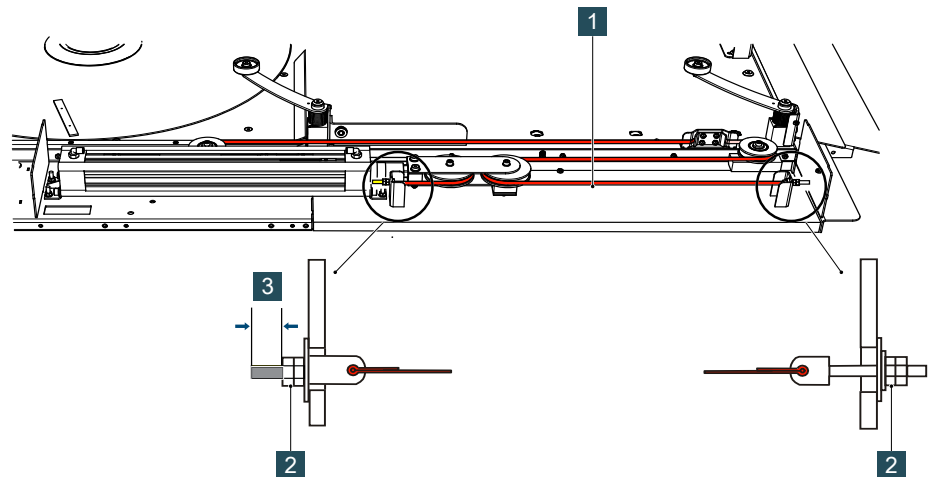


Figure 562: Drive belt for the can trolley

2. Make sure that the nuts **2** hold the drive belt **1** in the correct position.
3. Apply tension to the drive belt **1** with the hand.
4. Tighten the nuts **2** at the drive belt **1**.
 - ⇒ The primary position of the drive belt **1** for the tensioning procedure is set.
5. Measure the distance **3**.
6. To apply tension to the drive belt **1**, use the nuts **2**.
7. To set the distance **3** to 12 mm, use the nuts **2**.
 - ⇒ The tension is applied to the drive belt for the can trolley.

Applying Tension to the Drive Belt (CD 750, 800, 1000 mm)

1. Pull in the drive belt **1**.

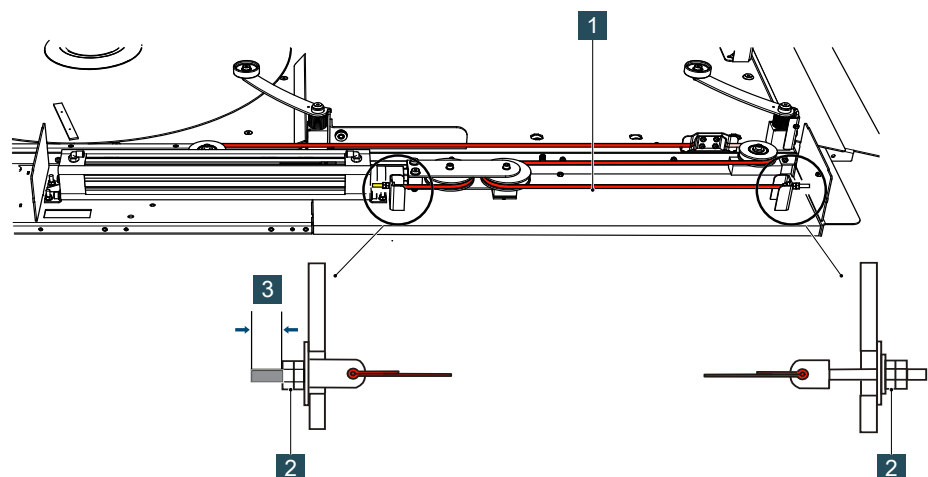


Figure 563: Drive belt for the can trolley

2. Make sure that the nuts **2** hold the drive belt **1** in the correct position.

- Result** The drive belt is installed on the can trolley.

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11 Decommissioning and Storage

This chapter contains the information about:

- The personnel
- The temporary decommissioning of the machine
- The final decommissioning of the machine
- The storage of the machine

11.1 Decommissioning Personnel

Only Rieter approved personnel are permitted to do the decommissioning and storage of the machine.

11.2 Measures for the Decommissioning and Storage

Temporary Decommissioning

A temporary decommissioning is a decommissioning only for a short time because of a shutdown. The purpose is to set the machine back into operation after the end of the shutdown.

These temporary decommissioning works are to be done:

1. Remove the fiber material from the machine.
2. Remove all operation fluids from the machine. Obey the national regulations for the storage or the disposal of all operation fluids.
3. Set the main switch to the position OFF. Padlock the main switch.
4. Disconnect the compressed-air supply.
5. Decrease the machine temperature to the ambient temperature.
6. Remove the tension from the timing belts, the flat belts, or the V-ribbed belts.
7. Clean the machine and all technology components correctly. Prevent the machine and all technology components from corrosion and impurities.

Final Decommissioning

The purpose of a final decommissioning is to prepare the machine:

- For the storage for a longer period
- For the transport to a different location
- For the disposal

These conditions for the final decommissioning are to be completed:

1. Remove the fiber material from the machine.
2. Remove all operation fluids from the machine. Obey the national regulations for the storage or the disposal of all operation fluids.

3. Set the main switch to the position OFF. Padlock the main switch.
4. Disconnect the compressed-air supply.
5. Disconnect the power supply to the machine.
6. Decrease the machine temperature to the ambient temperature.
7. Remove the tension from the timing belts, the flat belts, or the V-ribbed belts.
8. If the machine is prepared for the storage, clean the machine and all technology components correctly. Prevent the machine and all technology components from corrosion and impurities.
9. Disassemble the machine into units that stay in a safe condition during the transport.
10. Use the initial transport locks and the initial package materials. Obey the transport regulations. *Packaging and Transportation* ► 75

Storage

1. Keep the machine in a clean and dry room. Put the machine and machine parts on a flat surface. Identify the machine with an identification mark.
2. Prevent unauthorized personnel to go into the storage room.

12 Disposal of the Machine

This chapter contains the information about the disposal of the machine.

12.1 Disposal of the Machine

This chapter contains the information about the disposal of the machine after the end of the service life.

The machine owner has the responsibility for the correct disposal of the machine.

The instructions in the chapters that follow are to be obeyed:

- Safety
- Packaging and Transportation
- Decommissioning and Storage

The national regulations for the disposal of the machine and all operation fluids, batteries, and package materials are to be obeyed.

The disposal includes:

- Reusability
- Recycling
- Disposal of waste

The materials are to be divided in relation to the material group. The materials are to be given to the correct collection point:

- Steel
- Copper
- Brass
- Rubber
- Electronic waste
- Cast iron
- Glass
- Plastics
- Liquid materials
- Dangerous waste

The machine manufacturer Rieter is to be told about the disposal of the machine.

E-mail: info@rieter.com

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13 Appendix

This chapter contains the information about:

- Tightening torque standard
- Tools and gauges

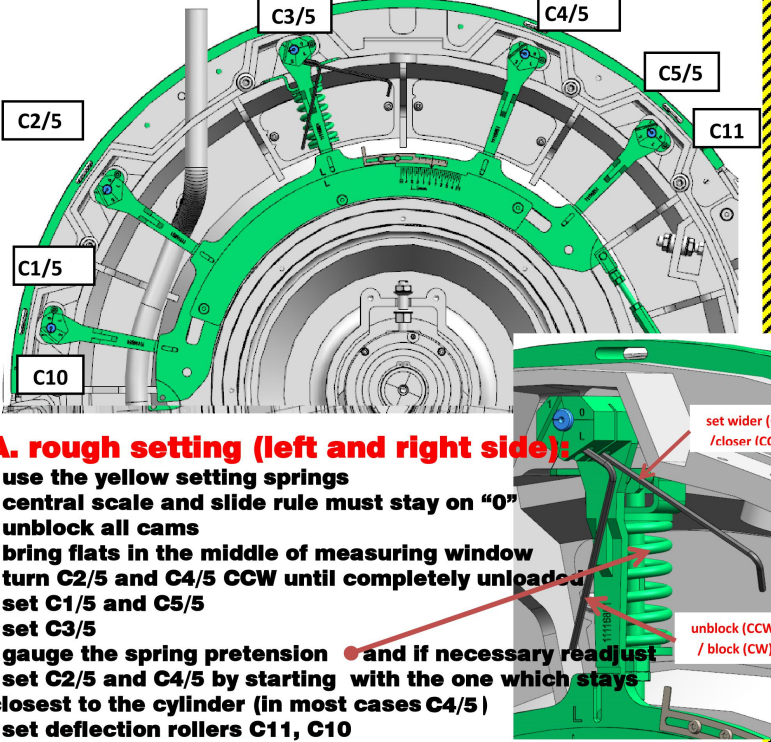
13.1 Tightening Torque Standard

Screw Dimension	Strength Class	Tightening Torque [Nm]	Clamping Force [kN]
M4 Coefficient of friction 4G = 0.14	4.8 (welding stud)	1.5	--
	8.8	3.1	3.9
	10.9	4.5	5.7
	12.9	5.3	6.7
M5	4.8 (welding stud)	3.0	--
	8.8	6.1	6.4
	10.9	8.9	9.3
	12.9	10.4	10.9
M6	4.8 (welding stud)	5.0	--
	8.8	10.4	9.0
	10.9	15.5	13.2
	12.9	18.0	15.4
M8	4.8 (welding stud)	13.0	--
	8.8	25.0	16.5
	10.9	37.0	24.2
	12.9	43.0	28.5
M10	4.8 (welding stud)	25.0	--
	8.8	51.0	26.0
	10.9	75.0	38.5
	12.9	87.0	45.0
M12	8.8	87.0	38.5
	10.9	130.0	56.0
	12.9	150.0	66.0
M16	8.8	215.0	72.0
	10.9	310.0	106.0
	12.9	370.0	124.0
M20	8.8	430.0	117.0
	10.9	620.0	166.0

Screw Dimension	Strength Class	Tightening Torque [Nm]	Clamping Force [kN]
M24	12.9	720.0	194.0
	8.8	740.0	168.0
	10.9	1080.0	239.0
	12.9	1240.0	280.0

13.2 Paper: Flexible Bow and Actuating

REMINDER



A. rough setting (left and right side):

- use the yellow setting springs
- central scale and slide rule must stay on "0"
- unblock all cams
- bring flats in the middle of measuring window
- turn C2/5 and C4/5 CCW until completely unloaded
- set C1/5 and C5/5
- set C3/5
- gauge the spring pretension and if necessary readjust
- set C2/5 and C4/5 by starting with the one which stays closest to the cylinder (in most cases C4/5)
- set deflection rollers C11, C10
- **REMARK:** to set the carding gap wider turn the socket wrench CW, to set it closer turn firstly CCW until the actual carding gap is slightly smaller as the final value and then turn CW until reaching the final targeted value

B. fine setting (left and right side):

- use the yellow setting springs
- start setting programm as described in chapter "Drive the card flats for the adjustment"
- chose the highest flat as reference
- set with the reference flat C1/5, C2/5, C3/5, C4/5, C5/5 (see **REMARK**)
- block all cams
- return with the reference flat in point C1/5 and then check again the gaps, if necessary correct (unblock / set / block)

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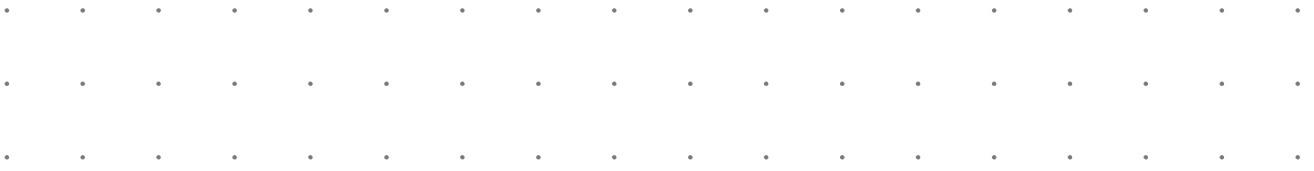
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